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ART. I.—*Cases of Thoracic Disease in which the Diagnosis was attended with unusual difficulties.* By JOHN A. SWETT, M.D., Physician to the New York Hospital; Lecturer on the Diseases of the Chest.

THE diagnosis of the diseases of the chest, in ordinary cases, has undoubtedly attained a positiveness and certainty that belong to no other class of internal diseases, if we except those of the eye. Still cases do occur in which, notwithstanding the most careful study, great doubt may exist, or even great errors be committed. The absence of prominent symptoms, or the unusual progress of a case, will sometimes cause us to hesitate; the presence of prominent symptoms, and especially of physical signs, *but which are misinterpreted*, will also sometimes lead us to form a positive diagnosis which a post-mortem examination shall entirely refute. It is this latter point that the following cases are well calculated to illustrate. They are cases of false diagnosis with positive symptoms; they are interesting to the pathologist as exhibiting rare forms of disease; they may prove useful in practice by putting others, as they certainly have done me, on their guard as to the possibility of deception when everything appeared clear and certain; and finally by pointing out the way in which similar mistakes may in many instances be avoided.

The four cases that form the subject of this report have occurred during the past year in hospital and private practice. The first case, although not primarily of thoracic origin, yet being almost immediately attended by marked pulmonary symptoms as well as actual disease in the chest, may with propriety be introduced here.

CASE I.—*Abscess of the Liver, simulating Empyema.*—William Wiseman, *æt.* 26 years, a native of England, seaman, entered the New York Hospital, July 30th, 1844.

The patient stated that about two years ago, while residing in Hondu-

ras, he was attacked with intermittent fever, which continued six months, and that thirteen months elapsed before he had completely recovered his health; also, that about last Christmas, while in perfect health, he was seized suddenly, being at work, with severe pain in the right side, which continued, without any other very prominent symptoms, for four or five weeks, and for which he used blisters. During the past spring or summer, he left Honduras and came to this city. At the time of his present attack, he was in excellent health.

Four days before admission to the hospital, he was seized with pain in the right side, cough with trifling expectoration, and fever. When first examined, the pain was found to be acute and constant, increased by a full inspiration, and situated just above the lower edge of the false ribs, in the right hypochondrium; the respiration was accelerated, about thirty a minute, and laborious; the cough dry, or attended with a trifling frothy mucous expectoration; the pulse frequent, 126 a minute, and small, but of good strength, the skin warm and disposed to perspiration. The tongue was covered with a thin white coat, and the bowels freely opened. On examination of the chest, no physical signs were discovered. The case was regarded as one of incipient pleurisy of the right side, in which effusion had not occurred. The general condition of the patient not seeming to require venesection, he was cupped freely, and repeatedly, over the lower portion of the right side of the chest, purged, ordered Dover's powder, and low diet.

August 2d. The patient is considerably relieved, the pain in the side has diminished. Tongue covered with a thin white coat; skin warm and soft; pulse quick, full, and strong; disposition to perspiration during the night. Dulness on percussion over the lateral portion of the right side, with egophony, indicating slight effusion into the right pleural cavity. Vesicat. lat. dext. thorac.

The blister produced marked but temporary relief, the pulse fell to 104, became soft, the skin also became cool. The pain in the right side occupied a space about the size of a dollar, and was of a sharp gnawing character, increased by coughing, by full inspiration, by movement in bed, attacking him like a cramp, also by pressure upwards under the false ribs. The face, however, became pale and anxious, the respiration did not improve, thirty-six, and laborious; the bowels were rather costive.

August 14th. The pulse has risen to 120, soft and feeble; skin rather warm, cough trifling: still complains of pain about false ribs on the right side on full inspiration; respiration forty. Dulness on percussion exists on the right side of the chest, as high as the nipple, and the respiratory murmur is absent. The patient complains of irregular chills, also of night sweats; skin rather warmer than natural. The blisters have been continued, and much relief has been experienced from full doses of morphine.

September 18th. During the past month the patient has been gradually failing, the countenance growing more pale, and the emaciation more marked; the hectic symptoms have also continued with more or less regularity. Morphine, blisters, and the aromatic sulph. acid were administered, with an improved diet. On the 10th Sept. he was ordered the treatment recommended by Dr. Hope for chronic pleurisy, viz.: Mass Hydrar. grs. iii, P. Digitalis, P. Scillæ, āā grs. i., ter in die, with nutritious diet and porter. The physical examination of the chest dis-

covered no important changes from those noticed August 14th. To-day on careful examination, the following conditions were found to exist. No marked dilatation of the right side, but lower angle of the right scapula more elevated than the left, more prominent, and moving less during respiration. Posteriorly, the dulness on percussion extends up as high as the spine of the scapula, laterally quite up into the axilla, anteriorly to within an inch of the clavicle. At the base of the lung no respiratory murmur is heard; about the lower angle of the scapula it begins to be heard feebly, improving above; in the axilla, it is heard, but is feeble, and mixed with an obscure mucous rattle; below, laterally, it is absent. Anteriorly, under the clavicle, it is clear and vesicular, diminishing in distinctness downward, and about the nipple masked by a mucous rattle (egophony, which had been noted several times during the past month, is not mentioned in the note of to-day). On the left side of the chest, the respiratory murmur is everywhere loud and vesicular. The respiration is laborious, oppressed, forty; there is constant pain in the lower part of the right side of the chest, increased by full inspiration. The cough is violent and paroxysmal, with an expectoration of opake mucus floating in serum. The appetite has failed during the past week and food causes nausea and vomiting; the bowels are disposed to be loose, the urine is natural. The skin is warm, with increase of heat at night, and sweating, but no chills at present; the pulse is 124. The countenance is very pale, and the patient is losing flesh and strength rapidly.

Pil. hyd. grs. iii, pulv. opii. gr. i, also, tinc. digit. gutt. xx, c. sp. ether nitros. ter in die. Vesicat. ad lat. dext. Beef tea, &c.

Oct. 6th. Six days ago, Oct. 1st, the lower and lateral portion of the right side was found evidently dilated, the dilatation extending, but in a less degree, posteriorly. The intercostal spaces, particularly between the sixth and seventh ribs, were bulging; and over this portion there was marked tenderness on pressure. Over the seat of dilatation, there was absolute dulness on percussion and complete absence of the respiratory murmur. The heart was pushed to the left, so that the apex struck one and a half inches outside the nipple; the edge of the liver could be felt two inches below the false ribs. To-day, with the bulging of the intercostal spaces, there is a feeling of obscure fluctuation. The legs have become œdematous. The gums have for a few days been slightly touched with mercury. Anorexia, and the disposition to vomit food about two hours after taking it, continue.

The constant progression of the symptoms, the hectic fever, the anorexia with vomiting, and the now marked evidences of the accumulation of purulent matter, as indicated also by the physical signs, induced me to attempt to assist the powers of nature by making an external opening, and in doing so, I did not doubt for a moment that I was dealing with a case of empyema. A deep incision was made laterally between the seventh and eighth ribs, which appeared to be the chief point of dilatation; the dissection was continued until I had penetrated below the posterior surface of the rib. Finding no matter, I passed in an exploring needle to the depth of about two inches: it passed evidently into a solid substance. The wound was then closed and the patient kept quiet.

Oct. 9th. The disposition to looseness in the bowels which has continued for some time, with occasional griping, has now terminated in a confirmed diarrhœa; six stools a day, watery but of good color; abdo-

men slightly tender and tympanitic; skin warm, pulse ninety-two; tongue moist, and covered by a dirty white coat.

Oct. 17th. The right side has been examined from time to time since the preceding operation, and yesterday a feeling of fluctuation between the tenth and eleventh ribs, and in a line with the axilla, was so distinct that, with the consent of Dr. Cheesman, who saw the patient with me, I was induced to make a new attempt to evacuate the matter. This time I was successful. A trocar passed in between the tenth and eleventh ribs, in a line with the axilla, evacuated at least two quarts of pus. The purulent fluid was not of as healthy an appearance as could be wished; it was offensive, partly tinged brown from admixture of blood, and stringy. As the matter flowed it was noticed that no air entered the canula during inspiration. The patient was much relieved by the discharge of matter; he complains to-day of but little pain; the respiration is twenty-two, the skin cool and soft, the pulse one hundred and twelve, soft, and of moderate strength. The edge of liver which before the operation descended two inches below the ribs, can now be felt just at their margin. Quinine, porter, wine, nutritious diet, with anodynes, were continued.

Oct. 18th. The patient is evidently more feeble to-day. On examining the wound, the canula was found to have slipped out, but the dressings were drenched with a thin greenish-black offensive fluid, instead of the tolerably healthy pus that had escaped the previous day. The lips of the incision also looked blackish and flabby. On passing in a probe the rib was found bare. The opening into the abscess was enlarged a little from before backwards, and about a tablespoonful of florid blood flowed from the wound. A compress and bandage were applied, and stimulants continued. In the evening the patient was found to be fast sinking—he was very restless. The dressings were slightly tinged with blood: there was no escape of matter. He died at 11, P. M.

Post-mortem Examination sixteen hours after death.—Emaciation: no external marks of decomposition; slight œdema of the feet; no tympanitis. Lower half of the right side of the chest much more prominent than the corresponding portion of the left side.

Head not examined.

On exposing the cavities of the chest by sawing through the ribs, the right lobe of the liver was found to be enlarged upwards, extending as high as the lower edge of the fourth rib at its junction with the cartilage, and diminishing the cavity of this side of the chest at least one-half—which contained, moreover, two and a half pints of high colored serum, but without flocculi of lymph. The right lung was much compressed and reduced in size, especially the middle and lower lobes. It was carried forwards and inwards, and adhered to the diaphragm and to the anterior wall of the chest by tolerably firm adhesions. The upper lobe reduced to about one-half its usual size still crepitated freely; its apex presented the first stage of pneumonia, its base adhered to the diaphragm by adhesions as firm as those of the lower lobes; its upper portion was united to the anterior and superior walls of the chest by more recent adhesions. The left lung contained at its summit an old cheesy tubercle, encysted; a trifling quantity of bloody serum was noticed in the cavity of the left pleura. The bronchial mucous membrane was pale, but rather opake and thickened. The heart was healthy and pushed a little to the left.

The enlargement of the liver was confined to the right lobe and to the superior portion, the free edge, thin and pale, projecting only an inch below the ribs. The peritoneum covering the upper and right two-thirds of this lobe adhered to the diaphragm by false membranes of the same firmness as those which united the right lung to this partition. An immense abscess occupied the superior and right portion of this lobe. It contained, 1st, about a pint of dark grumous clotted blood: 2nd, a considerable quantity of the stringy pus that had passed through the canula two days before: it adhered firmly to the walls of the abscess which were formed by a thick and firm false membrane. The substance of the liver immediately around the abscess was of a dark and bluish tint, the natural granular texture being lost, but it was neither injected nor softened. In one portion, however, and in the immediate neighborhood of the abscess, the liver was of a dark red color, moist and friable to the depth of about an inch. The rest of the organ was pale and rather soft; its granular structure was preserved. The gall-bladder contained a small quantity of watery transparent yellowish fluid.

The tenth rib was bare for three inches, commencing at its cartilage, and beginning to grow rough from caries both internally and externally —the ninth rib was also bare, but to a less extent and not carious. On looking at the parietes of the thorax inside the ribs affected, a patch involving all the tissues, as large as the palm of the hand, and in the centre of which existed the aperture made by the trochar, was in a state of gangrene. The same gangrenous condition was found external to the ribs, and to the same extent, involving the muscles and cellular tissue, but not the skin. The spleen was much enlarged, the kidneys were pale and healthy. The mucous membrane of the stomach was pale and much softened, with large brownish veins ramifying beneath it. The mucous membrane of the jejunum was natural, and tinged with healthy bile, that of the ileum was rather thickened, the thickness increasing in the neighborhood of the ileo-cœcal valve, and rather softened, but without injection. The sub-mucous and muscular tissues were also thickened. The mucous membrane of the cœcum was of a slate color, somewhat softened and thickened, and studded with ulcers, some of considerable size, but without inflamed or elevated edges: the subjacent coats, particularly the muscular, were much thickened. This slaty color did not extend much into the colon, neither did the ulcers, but the coats of the large intestines, throughout their whole extent, were thickened, and the mucous membrane friable, although these conditions were less marked, the nearer we approached to the anus. The mesenteric glands were enlarged but pale, the mesenteric veins congested. Considerable effusion of serum was found in the cavity of the peritoneum.

The possibility that an abscess of the liver might be the true disease in the above case, was suggested during its progress, and abandoned after a careful review of the rational and physical signs. With the exception that the patient had resided in a warm climate for several years before his attack, a circumstance probably worthy of more attention than it received, there was really no good reason for deciding in favor of a very rare form of disease with us, and against one of our most frequent forms of attack, pleurisy, to which both in its early, as well as late progress, it bore so close a resemblance. It was ushered in with symptoms of febrile reaction, with acute pain in the side increased by a full inspiration, dry cough and dyspnœa. On a careful review of these symp-

toms, it might be thought that the pain was unusually low down, about the edges of the false ribs; indeed, I well remember that the resident physician, Dr. Elliott, remarked before I had examined the case, that he supposed it to be an inflammation of the serous coat of the liver. It might also recur to those who remember the early condition of the case, that the dyspnœa was too intense, and the impression on the constitution too powerful for a case of pleurisy unattended by any physical signs: yet the marked dyspnœa should, I think, rather confirm the supposition that the disease was thoracic, and the absence of marked physical signs until the sixth day, although unusual in pleurisy, should by no means lead us to believe that it did not exist. The progress of the case, the development of dulness on percussion and absence of respiration over a considerable portion of the affected side, and above all the existence of egophony as proved by repeated observation, the gradual dilatation of the side, with bulging and fluctuation of the intercostal spaces, the displacement of the heart, and finally the setting in of a well marked hectic, all pointed directly to one disease, empyema. Again, the entire absence of jaundice, and of any derangement of the biliary secretion, the position and condition of the free edge of the liver, which, although lower down than natural, was yet without tumefaction, were all circumstances calculated to draw attention from the liver, and fix it upon the pleura. To leave nothing unconsidered that might have corrected the diagnosis, it might be thought that the pointing was unusually low for empyema; it certainly was so, yet I can remember two cases where the pointing was, I think, equally low down, the one, a boy about six years old, who was operated upon by Dr. J. Kearney Rodgers, the other, a lad a little older, in whom the opening was spontaneous. The truth is, that secondary pleurisy, with effusion, no doubt occurred at a very early period of the attack, as is proved I think, 1st, by the post-mortem fact that the false membranes uniting the lungs to the diaphragm were equally ancient with those which united the liver to this partition, and 2d, by the early development of egophony which existed too distinctly, and was heard by too many persons to admit of any doubt.

The evidences of chronic intestinal inflammation, of which no history was given during life, as well as of recent inflammation as indicated during life by the existence of diarrhœa, and after death by ulceration of the mucous membrane of the cœcum, are also points worthy of attention.

Finally, I am willing to admit that the clot of blood found in the abscess after death, was probably caused by the attempt to enlarge the opening of the trochar the day before death. The condition of the wound seeming to forbid the further use of such a source of irritation as the canula, it was thought advisable to enlarge it a little. This hemorrhage probably hastened the time of death, but it is satisfactory to believe that the same result would inevitably and speedily have followed had not this accident occurred.

Case II.—*Carcinoma of the Posterior Mediastinum, simulating Empyema.*—Mr. H. a gentleman æt. 45 years, of rather delicate constitution, had been subject to a trifling cough for many years, especially on rising in the morning. About two years ago, he began to notice slight dyspnœa after unusual exertion, and to complain of wandering pains in both sides of the chest, which were relieved by stimulating liniments; these symptoms existed without any marked alteration

in his general health. In January, 1844, he had an attack of severe pain in the left side which continued several days. February 26th, 1844, he consulted his physician Dr. A. Du Bois, for a pain in the back, which was regarded as lumbago. May 26, he asked advice again for the wandering pain about his chest, which affected both sides and especially the region about the nipples; at this time the dyspnœa had rather increased. In June and the early part of July, he complained of strong pulsation with burning heat in the epigastrium, eructations, and a sense of uneasiness in the stomach when empty; the bowels were costive. During this time, however, he attended regularly to his business. On the 9th of July, while in his store and seeing two of his men hoisting an empty barrel, he playfully seized the rope with one hand and gave a slight pull, when he felt something snap in the anterior portion of the left side of the chest; complained of acute pain in the same region, and partially fainted. When seen by Dr. Du Bois, a short time after the accident, his respiration was hurried, his countenance anxious, and he complained of intense pain on the left side, about the third rib in front. On placing the hand on this region a distinct crepitation was felt over an extent of several inches, indicating an effusion of air into the sub-cutaneous cellular tissue. Leeches and warm fomentations gave him decided relief.

A day or two after this accident I saw the patient for the first time. The effused air was then nearly or quite absorbed, and he complained but little of pain in the chest; there was, however, considerable oppression of the respiration. On examination of the chest, the left side was found evidently dilated, intercostal spaces as well as ribs, and generally dull on percussion, with feeble respiration; the opinion was formed that effusion of fluid existed in the left pleural cavity. The pulse was slow, only 65 in a minute, and there was no fever; the patient was rather pale and feeble, but complained principally of the dyspnœa. At this time, it was supposed that a chronic pleurisy had been slowly developed, and that tubercles very likely existed with it. It was thought not unlikely that the subcutaneous effusion of air was connected with the rupture of a tubercle, the lung having previously become adherent to the walls of the chest in its superior and anterior portion. The idea of an effusion of fluid into the chest being the sole cause of the physical signs was confirmed by watching the progress of the case. After a time egophony was distinctly detected about the lower angle of the scapula, and extending in front to the nipple, and the heart was observed to be pushed over to the right side. A change in the position of the patient made no difference in the dulness on percussion. He continued to linger from this time, although able to attend to his business with more or less regularity, until early in December, when I examined him again. At that time the evidences of effusion had rather diminished; the respiration had become more distinct, and the percussion more clear under the left clavicle. He was free from fever, his pulse was 80, and he had no night sweats. The treatment had consisted principally of blisters, diuretics, and careful diet. Soon after this he passed into the hands of other practitioners, and among other things tried the homœopathic treatment. Still he gradually declined, and finally returned to his original physician. I saw him again on the 27th of February, a few days before his death. At that time he was confined mostly to his bed, was pale, emaciated, and disposed to lie only on the affected side. His pulse had become gradually accelerated to 100, and was feeble; there was also a

slight disposition to night sweats, but without heat of skin. The cough was moderate and attended with trifling mucous expectoration. The patient complained of little or no pain in the chest, but of a good deal of dyspnœa; respiration about 40 a minute. There never had been the least evidence of hemoptysis. The tongue and throat were aphthous, the bowels were costive, the urine moderate in quantity with some brick dust sediment.

A careful examination of the chest was made at this time, and the following phenomena were noticed. The respiration was chiefly diaphragmatic; the ribs moving but little, especially those on the left side. The whole left side was much dilated, especially laterally, and anteriorly about the third rib; the intercostal spaces were also dilated. For two or three weeks the intercostal space between the second and third ribs had been observed to bulge during expiration, although during my examination I did not notice it. The percussion of the left side was universally very dull, especially laterally, and anteriorly about and above the nipple. The respiratory murmur could be heard at the summit of the lung, under the clavicle and above the spine of the scapula; posteriorly at the root of the lung and for a considerable space, the respiration was strongly bronchial; over the rest of the lung no respiration whatever was heard, but at the base of the lung a distinct creaking sound like that produced by the friction of false membranes was heard during inspiration and expiration, and had existed there permanently for a considerable time. There was no rattle or rhonchus in any portion of the lung; an imperfect egophony was noticed in the lateral portion where the percussion was the most dull, and the respiratory murmur entirely absent. On the right side, the heart was felt beating far to the right of the sternum, and a slight crepitating rattle existed about the mamma extending under the arm; in other respects, this lung appeared perfectly healthy.

The evidences of effusion into the chest seemed so decided, that I examined the dilated intercostal spaces carefully, in the hope of finding a fluctuating point. Nothing of the kind was discovered, although much tension, as if from strong internal pressure, was noticed. The idea of tapping the chest occurred very forcibly to my mind. On the next day, 28th, the patient was much worse; he was suffering from orthopnœa, although the respiration was not more accelerated than the day before, about 40. He was evidently sinking, and had had several attacks of faintness during the morning; his pulse was 108 and feeble, his skin cool. The crepitation in the right lung was more distinct, and heard only during inspiration, but without corresponding dulness on percussion. The existence of an intercurrent pneumonia was suspected. A blister to the right side and the decoc. Senegæ were ordered, with wine. The patient continued to sink during the day with increased oppression of the respiration, and died at about 11 P. M.

Post-mortem Examination 12 hours after death.—Emaciation considerable; slight œdema of the feet. The left side of the thorax was much dilated, especially anteriorly and laterally. On removing the skin and pectoral muscles, the intercostal space between the second and third ribs was so much dilated, so tense, and even bulging, with the feeling of fluctuation, that I called for a bowl, expecting to draw off a large quantity of fluid before removing the sternum in the usual way, but to my great surprise the instrument passed with considerable resistance into a solid mass! After removing the sternum and cartilages with a portion of the ribs on the left side,

the whole left cavity of the thorax, the mediastinal spaces, and at least one quarter of the right cavity of the chest, were found occupied by a tumor. Its shape was irregular; on the left side it corresponded somewhat with the walls of the thorax with which it was in contact, while on the right side it projected by its lower and anterior portion, so as to form a distinct process resembling in size and shape an adult kidney. The attachments of the tumor to the walls of the chest were quite limited. At the anterior and superior portion of the left side they were very firm and ancient over a space as large as the palm of the hand; along the spine also, and the posterior portion of the diaphragm, there were a few adhesions, but in the other portions, the hand could be passed freely round the tumor between its investing membrane and the costal pleura. The left pleural cavity contained about half a pint of reddish serum; its serous membrane was opake and thickened, but without any trace of inflammatory action, except the few old adhesions already mentioned. The left lung, reduced by compression and atrophy to at least one-tenth of its natural size, lay upon the upper and posterior portion of the tumor, its apex but little compressed, embracing the top of the tumor and extending forward upon it. With the exception of this small portion at the summit, the lung was much atrophied and reduced to a thin lamina of otherwise healthy tissue, and presented numerous and large bronchial tubes of the natural size still freely admitting air, so that the lung, when divided, seemed made up in a great measure of these tubes. The right lung adhered generally to the chest by old adhesions; it was diminished in size to a perceptible extent by the pressure of the tumor, and in its middle lobe presented the first stage of pneumonia. The heart, small and flabby, was pushed far into the right cavity of the chest by the kidney-like process of the tumor, which had singularly indented the blunt edge of the left ventricle.

The tumor, when carefully examined, appeared to grow from the cellular tissue at the root of the left lung. In its growth, it seemed to have pushed the pleura of the lung before it, appropriating this membrane as its own proper capsule, while it stripped it off from the atrophied lung—thus the tumor, with respect to the pleura, took the place of the lung. This capsule of pleura, like that lining the ribs, was opake and thickened, but smooth and shining.

The tumor weighed 11½ pounds; it measured vertically twelve inches and transversely eight inches; its circumference in each direction was two feet. On being divided, two or more layers of condensed cellular tissue were found under the pleural capsule of the tumor, and the mass was seen to be composed of at least five distinct tumors of different sizes, each invested by its capsule of condensed cellular tissue. The composition of these tumors was not identical. The two largest, composing two-thirds of the whole mass, were of a pale yellowish-white color, marbled with spots of a deeper yellow or reddish tint, firm to the touch, creaking under the scalpel, giving out on being scraped a little viscid and yellowish apple-juice fluid. Its structure, under the microscope, appeared areolar and without fibres, and presented the orifices of large vessels; it also contained considerable fatty matter (*Schirrus*). Two of the remaining tumors were much smaller, but of a much brighter yellow color, soft and flabby, areolar with large cells, lobulated, presenting numerous red points, and in some portions minute whitish granules and yielding by scraping, a more viscid yellow fluid: they contained no fat (*jelly-*

like degeneration). The fifth and remaining portion of the mass, resembling in shape and size an adult kidney, was composed, in fact, of three masses, more or less distinctly separated from each other; it was much firmer and drier than the other portions. It was distinctly fibrous and in portions bony; in other portions the jelly-like matter appeared to be infiltrated among the fibres (*fibrous tumor*).

The liver was small; the left lobe being reduced, as if from compression, to a thin, tongue-like process, but healthy in its structure; the spleen was also very small, but healthy; the stomach was natural; no disease of the lymphatic system was noticed.

The gradual development of the symptoms in the above case, the cough, the dyspnœa, and the pain in the chest, were certainly not those of ordinary pleurisy. Yet cases of essentially chronic pleurisy are sometimes met with which are attended with similar slowly developed symptoms, and particularly in connexion with the tuberculous diathesis. The general aspect of the patient, a pale, delicate, spare man, rather favored the supposition that this diathesis might exist; and this was rendered still more probable by the sudden occurrence of external cellular emphysema, so readily explained by supposing that a softened tubercle in the superficial portion of the lung had communicaed with the cellular tissue after penetrating the adhesions that had been previously formed between the opposite surfaces of the pleura. A careful examination of the summit of the lung, where the respiration was always pure and vesicular, did not, however, tend to confirm this supposition. The existence of effusion into the cavity of the left pleura was never for a moment doubted. The great dulness, the respiration at first feeble then absent, in the inferior portions of the left side of the chest, the displacement of the heart, the existence of egophony, the dilatation of the chest anteriorly and laterally, the sound of friction that was at length developed posteriorly, and finally the supervention of hectic symptoms, were certainly indications of chronic pleurisy. Indeed, the existence of a large accumulation of fluid in the chest seemed to want nothing to confirm it, except the bulging of the intercostal spaces, which finally appeared in so clear a form that I was on the point of recommending that the patient should be tapped. Even after death, when the integuments and muscles had been removed, the feeling of fluctuation even, was so distinct, that my previous opinion seemed to require no further confirmation; yet the instrument passed into a perfectly solid tumor! It is probable, however, that at one period of the disease, before the tumor had acquired its full development, a certain amount of liquid effusion did exist in the chest, and which was gradually absorbed as the growth of the tumor filled the cavity of the pleura. The existence of egophony, which was well marked at one period of the disease, is a proof of this.

The method of distinguishing solid tumors developed in the chest from liquid effusions into the cavity of the pleura, or of the pericardium. The history of the above case has been sufficient to convince me of the great difficulty that must attend the physical diagnosis of similar cases by the *ordinary* methods. By ordinary percussion the dulness is the same, whether the lung is driven from its natural position, and compressed by a solid or a liquid mass; an absence of the respiratory murmur is certain to accompany either condition. It is also equally certain that the displacement of the neighboring organs, especially of the heart, the dilatation

of the chest and even the bulging and fluctuation of the intercostal spaces, may occur under both conditions if either the solid or liquid accumulation be considerable. The method of resolving this uncertainty, I think, will be found by resorting to *Auscultatory Percussion*, first used in medical diagnosis by Drs. Cammann and Clark of this city, and published in the New York Journal of Medicine and Surgery for July, 1840. This valuable addition to medical diagnosis consists in the use of a solid stethoscope, which is to be applied over that portion of the chest where dulness by ordinary percussion is found to exist. Then, by applying the ear to the opposite extremity and percussing gently in the neighborhood of the instrument, if the compressing mass is solid, a smart shock will be communicated to the ear; if it be fluid, little or no shock will be communicated. The idea of resorting to this method of diagnosis, in cases like the above, was first suggested to me by Dr. A. C. Post of this city, and I regard it as one of the most valuable hints I have ever received from an intelligent circle of medical friends. The diagnosis between solid and fluid compressing masses may, I think, be ascertained with equal certainty, even when they co-exist and are in juxta-position, and the exact limits of each accurately defined. Thus in a case of empyema of the right side, from which I have recently drawn off, by tapping, two quarts or more of pus, ordinary percussion detected uniform dulness all over the affected side; yet by auscultatory percussion I could readily distinguish the solid liver below from the fluid pus above.

In the case of Wiseman, first stated, in which the right lobe of the liver was enlarged upwards, with co-existing effusion into the chest, I am also inclined to believe that this method of percussion would have marked distinctly the limits of the solid and the fluid, and established at once the diagnosis; for nothing can be more evident than that a liver rising up and filling half the chest is inconsistent with the idea of a simple empyema, the tending of which is to push the liver downwards.

The value of this mode of diagnosis is strengthened by the recollection that the rational signs, as well as the constitutional symptoms, are often of a very equivocal character. We have seen in the case of Wiseman, how much more the rational signs were dependent upon an alteration of the functions of the lungs than of the liver, which was the primary and chief seat of disease; the same remark will apply to the case of Mr. H. In both these cases, the constitutional symptoms, the gradual emaciation and exhaustion, and the final development of hectic fever, were quite as favorable to the idea of empyema as to the diseases from which they actually suffered.

Case III.—*Carcinoma in the mediastinum involving the Great Vessels, simulating Valvular disease of the Heart.*—Jan. 28th, 1844. Wm. Davis, *æt.* 40 years, a native of England, an equestrian, of good natural constitution but of intemperate habits, was first taken ill about six months ago. He was then living in a damp cellar, and exposed to many privations. He was at first seized with oppression in his breathing, with wheezing respiration, pain in the precordial region passing through the chest, slight cough, and with febrile symptoms. These symptoms continued about a week with considerable severity, after which time be became comparatively easy. Since this time, they have continued to return with intervals of ease continuing for several days. He has been unable to lie on his right side since his first attack. He has been bled once,

about two months from the commencement of his attack; he has also been purged and blistered. At the time of his admission to the New York Hospital, on the 28th of January, he presented the aspect of a patient suffering from a chronic and severe disease. He appeared very pale and much emaciated, although, by his own account, he lost neither much strength nor flesh. His skin was cool and rather dry, his pulse accelerated, 112, and rather feeble. The existence of a general dropsy was at once noticed. The feet and legs first became œdematous about three weeks ago; the left arm was in the same condition, the œdema extending to the left side of the chest and as low as the nates—the right side of the trunk was also affected, but in a less degree. Examination of the abdomen detected the existence of a considerable effusion into the peritoneal cavity. No tumor could be discovered there, although the right hypochondriac region offered more resistance to pressure than the opposite side, accompanied by a little tenderness. The tongue was pale but without coat, the appetite good, the digestive powers somewhat impaired. The bowels were rather costive, the urine very scanty, of a deep orange tint, turbid, and depositing a sediment resembling in appearance Indian meal.

On examining the chest, the entire left side was dull on percussion; the respiratory murmur was absent inferiorly and laterally, and feeble over the remaining portions of the side; egophony was detected at different points. No alteration in the form of the side existed, or if any it appeared a little contracted; the heart was considerably displaced to the right. These physical signs indicating the existence of serous effusion into the cavity of the left pleura, were confirmed by the marked effusion in other parts of the body. The patient having been previously purged was ordered the ordinary pill of Blue Mass, Squills, and Digitalis as a diuretic; also, a nourishing diet, with wine.

January 29th. To-day the liver could be distinctly felt enlarged and extending as low as the umbilicus: the pulse was also noticed to be irregular last evening: to-day it is regular.

February 3d. Dyspnœa increasing; dropsical symptoms remain the same; bowels freely moved; pulse 110, regular. A loud rasping sound is heard accompanying the impulse of the heart and having its maximum of intensity over the aortic valves, it gradually diminishes towards the apex to the heart, although it can be heard there; along the aorta it gradually changes to a bellows murmur. Ordered gin in the place of wine; continue the diuretics.

February 4th. Has used the gin freely; respiration very much oppressed, although the dropsical effusion in the lower extremities seems to have diminished a little: face pale, with the expression of distress: urine rather increased in quantity; bowels freely moved by pulv. purgans. Pulse irregular. The rasping sound is heard distinctly along the aorta; over the body of the heart it is extremely feeble and indistinct. The gums having become slightly affected, the mercurial pills were omitted and the ordinary diuretic decoction ordered.

February 5th. Slept very little last night from the oppression of the respiration, which is very labored and twenty-eight per minute. The rasping sound over the heart has changed to-day to a sawing sound; it is not heard over the body of the heart and but faintly along the aorta; pulse 120, feeble, regular.

February 7th. Lies asleep with the head low, breathing laboriously, pulse 96. On being awakened is quite sensible and says he feels easier.

February 8th. Some delirium last night, also to-day; thinks that his breathing is easier; tongue dry with a thin brown coat; bowels costive; urine rather scanty, less than two pints every twenty-four hours, high colored, with much mucus and brick dust sediment. The same sawing sound over aortic valves, no thrill. Ordered pulv. purgans.

February 9th. Lies low and on the left side; pulse 90, irregular; anasarca of legs much increased.

February 10th. In the same condition as yesterday; urine increased in quantity and without sediment, a cloud of mucus floating in it. Respiration 20; pulse 92, regular, rather feeble; skin cool.

February 11th. Slight delirium; pulse 88, and not quite so feeble as yesterday, tongue dry; costive; tracheal rattle; the sawing sound continues over the aortic valves. The patient died the next day.

Post-mortem examination 7 hours after death.—Body much emaciated. Anasarca of both lower extremities, of the left upper extremity and of the left side of the trunk. On opening the chest, the cavity of the left pleura was found to contain about three quarts of bloody serum mixed with a few flocculi of coagulable lymph. The pleura was much thickened, opaque and thinly coated with lymph. The lung pressed upward, occupied about one-third of the cavity of the pleura, and adhered to the walls of the chest both anteriorly and posteriorly with great firmness. A mass of carcinoma, partly schirrous, partly encephaloid, granular, of a dirty white color with yellowish specks of irregular shape scattered through it, exhibiting here and there the rudiments of vessels and yielding, when gently scraped, a viscid yellowish-white fluid, occupied the anterior mediastinum from the origin of the great vessels to the top of the sternum, and involving these vessels in its mass. It also penetrated into the posterior mediastinum, involving the trachea and the œsophagus. Masses of the same cancerous deposit of considerable size occupied also the substance of the lung. Some of the large pulmonary veins were filled and obliterated by it, and in those portions of the lung least affected, numerous small whitish tubercles were discovered, which appeared to be the cancerous matter in its earliest stage. The substance of the lung itself, in the neighborhood of the cancerous masses, appeared quite healthy, although somewhat compressed by the effusion in the pleural cavity, and by the thick and almost cartilaginous false membranes that covered it. The right lung was quite healthy, except a few spots of pulmonary apoplexy near the free edge of the lower lobe. The bronchi appeared somewhat inflamed; the bronchial glands were much enlarged and some of them quite changed into carcinoma.

The pericardium contained about twelve ounces of bloody serum; its surfaces were not adherent, but covered in every part by rough false membranes which were most abundant near the origin of the great vessels and near the apex. The heart itself appeared slightly enlarged, but its cavities as well as those of the great vessels, including the valves, were perfectly healthy. The calibre of the aorta and pulmonary artery, and the cavity of the left auricle, appeared much compressed and diminished by the pressure of the cancerous masses around them.

The stomach was small, and its mucous membrane generally a good deal thickened. The liver appeared healthy, although it descended two or three inches below the ribs; the spleen was also healthy. The pancreas contained several of the cancerous deposits of considerable size, and two or three similar deposits of a small size were found in the tubular

portion of one of the kidneys, which also appeared to be firmer and more lobulated than natural. The intestines appeared healthy, also the mesenteric glands. A considerable quantity of yellowish serum existed in the cavity of the peritoneum.

The early symptoms in the above case were not those of disease of the heart, although indicating disease in the chest, the first and most prominent symptom being dyspnœa. Still, the existence at the time of the patient's admission to the Hospital, of a general dropsy commencing in the lower extremities, attended by a permanent sawing sound over the valves of the heart, with more or less irregularity of the pulse, certainly pointed to valvular disease, especially obstruction of the aortic orifice as the most probable cause of the symptoms. Indeed, the external physical obstruction caused by the pressure of a firm and irregular tumor upon the origin of the aorta and pulmonary artery must have operated in precisely the same way upon the functions of the heart, and induced the same physical signs as if the obstruction had been within these vessels, and caused either by tumefaction of the valves, or by ossific deposits. The same tumor pressing also upon the great veins must have added very much to the disturbance of the circulation.

Pericarditis was also found to exist on post-mortem examination, the existence of which was not suspected during life. In reviewing the case, much doubt exists in my own mind as to the time when it was developed. My impression is that it was developed but a short time before death, for whenever the heart was examined its action appeared superficial, and the morbid sawing sound being heard almost entirely over the valves and along the aorta, could with more propriety be referred to the obstruction of the orifices by the pressure of the tumor than to the friction of false membranes. On the other hand it may be remarked, that this rough sound over the valves was not heard during the first days after the admission of the patient, although the obstruction from the tumor must have then been as great as ever; and again, that the tumor developed in part under the base of the heart may have pushed it forward, especially at its base, and thus produced a modification of the usual seat of the friction sound, and allowed its development even with the co-existence of a considerable effusion of liquid.

In this case also, I am inclined to think that auscultatory percussion would have thrown much light upon the diagnosis. For by this method we can distinguish not only fluid from solid masses in the chest, but even the existence of two solids in juxtaposition and not directly united with each other. Thus in the healthy subject we can distinguish by the difference in the shock communicated to the ear, the limits of the heart above and the left lobe of the liver below, although they lie separated from each other only by the diaphragm—so closely connected, indeed, that by ordinary percussion the limits of each cannot be determined. Admitting this fact, it is by no means impossible that the carcinomatous tumor might have been distinguished from the heart not only by a difference in the shock over the two masses, but certainly from the liquid effusion in the chest. Had this been done, its extent, direction and position would have at once removed any suspicion that the heart was the sole source of even the solid enlargement.

The above considerations, tending to show the value of auscultatory percussion in the diagnosis of obscure cases of thoracic disease, must not be regarded as an unnecessary refinement in practice. Indeed, I am sure

that those who have made the physical signs of disease the subject of careful study, and yet, like myself, have encountered cases that have baffled all their efforts, will be induced to resort to a method so easy of application and so likely to lead to positive results.

Case IV. *Aneurism of the Ascending Aorta, simulating an Abscess.*—Mr. C——, aged about 35 years, of good constitution and in the habitual enjoyment of good health, except when suffering from rheumatism occasionally, was taken ill without apparent cause about the 1st of January, 1844, a year ago. He found himself affected one morning with a sense of *painful constriction*, passing through from the cartilages of the 2d to 4th ribs, and principally on the right side, back to the shoulder blades. Within a day or two from this time the pain affected also the right shoulder. A physician being called in, regarded it as a mixture of neuralgia and rheumatism; it was relieved by cupping, and cured in about two weeks by the local application of warm stimulants. He then made a visit to New York and returned to New Orleans on the 15th of April last; during this interval he remained *perfectly well.* About a week after his return, however, he was attacked again with pain in the right shoulder, extending up the side of the neck to the back of the head. He also complained occasionally of pain, less severe, in the right arm, and indeed in other parts of the body. The pain in the right shoulder and side of the neck was the most severe, and possessed the characters of neuralgia, being at times of an exceedingly sharp shooting character, and the focus from which the pains in other parts seemed to radiate. The irritation and suffering were so great that the patient lost flesh and strength, and was confined to the house, at least one half of the time for a month or two. Although much enfeebled there was no symptom of local paralysis; no tenderness on pressure over the spine. On the first of June, after blisters, electro-magnetism and warm applications had been used but without any decided relief, he left New Orleans and passed up the Mississippi, suffering greatly during the voyage, and reached Cincinnati in a very weak condition, with his nervous system much shattered by the severity of his sufferings. During his voyage, he for the *first time* became affected with a dry trifling cough. About the middle of June he crossed the mountains from Guyandot to the Blue Sulphur Springs in a private conveyance, walking however, by his own report, about one half the way, with surprising improvement in his strength and relief to his neuralgic symptoms. At this time his breathing was perfectly good, and no pulsation existed in his chest, notwithstanding the mountainous character of the country over which he walked; the dry trifling cough continued. While at the Springs he states that he frequently played nine-pins with his right arm, and rather with relief than otherwise. Indeed during his short residence (only a week or two) at the Springs he improved surprisingly, so that when he left them the neuralgia existed only in a slight degree in the right shoulder and side of the neck. He arrived in New York about the 1st of July, and soon began to grow worse, the pains increasing in severity. At this time he called upon Dr. Harriott, who regarded his case as neuralgia and treated it accordingly. Finding himself no better he went into the country, but now found that the exercise and pure air which had before benefited him so much were decidedly injurious, aggravating his cough and other symptoms. He returned to the city and began to employ himself actively in the purchasing of goods. He *now*,

for the first time, began to notice pulsation and oppression in the chest on exercise, especially on going up stairs—the pulsation existing in the upper portion of the chest, and on the right side, without his being able to locate it exactly. By the middle of September his breathing had become decidedly asthmatic, as also the cough, the neuralgic pains continuing. To relieve his asthma, he was placed by Dr. Harriott on an inclined plane with the head low; this somewhat relieved the breathing; but created, as he states, such a "commotion" in his chest that he could not endure it for any length of time. A few days after this plan was adopted, the *external tumor* first appeared. A tumor about the size and shape of a black walnut was noticed in the omo-clavicular space (between the external portion of the clavicle and the inner edge of the trapezius in the neck), strongly pulsating; the skin covering it being tender and red with erisypelatous inflammation—leeches were applied with relief to the inflammatory symptoms. In the course of ten days the tumor had *travelled gradually* from its first location, across the neck to the hollow just above the sternum, leaving the omo-clavicular space entirely free, and pulsating strongly in its new position as a tumor about the size of the "butt of an egg." The neuralgic pains continued severe, the oppression in the chest marked, and the cough frequent, dry, loud, and often long continued and distressing. After an interval of four or five weeks, the expectoration became suddenly abundant and purulent in its character, more or less tinged with blood and offensive; varying in quantity from a pint to a quart a day, and continuing for three weeks, but with remarkable relief to the neuralgic symptoms. The oppression in the chest diminished—the tumor also decidedly decreased in size, and retained very little pulsation—the appetite and strength also improved to such a degree that the patient thought himself nearly well. About the 15th of last month (December), the pain began to return in the shoulder, being first noticed about the clavicle, the pulsating tumor began to grow again under the right clavicle and at the top of the sternum, and again in a few days copious expectoration ensued of purulent matter, but now only with partial relief; at this time the right arm became œdematous.

I saw the patient for the first time with Drs. Stevens and Harriott, Dec. 30, 1844. At that time he was confined to his room, but able to sit up most of the time, in good spirits, disposed to conversation, which he could enjoy for hours together, not only without fatigue but rather with relief. His aspect was pale with some emaciation, but bright and cheerful. On exposing the chest, a tumor, egg-shaped, with its larger extremity towards the right shoulder, seven inches in length by three in breadth, extended from the middle of the clavicle on the right side to the inner edge of the middle of the sterno-cleido-mastoid muscle on the left side. The right clavicle, dislocated at its sternal extremity and elevated, passed over the middle of the tumor like a bridge; the upper bone of the sternum was also pushed forwards, but in a less degree, by the pressure of the tumor. The sterno-cleido-mastoid muscle of the right side passed over the tumor and was lost in it, and a line of pulsation along the course of the common carotid on the right side rendered it probable that this vessel also was pushed forward by the tumor. The trachea was also pushed somewhat to the left side. The tumor was extremely elastic to the touch and strongly pulsating in every part, but most so immediately over the sternum; its right portion was more firm to the touch, and here the pulsation was less distinct. There was no thrill or bellows murmur any

where. The surface of the tumor was shining, with a faint blush on its more prominent parts; it was also slightly œdematous, but without heat or marked tenderness. The whole superior portion of the right side of the chest was enlarged, including the parts between the clavicle and the spine of the scapula, and perhaps even lower, while anteriorly the enlargement ceased abruptly with the tumor about the level of the second rib. This enlargement of the parts, in the neighborhood of the tumor, was probably owing, in part at least, to an effusion of serum into the cellular tissue, as the right arm, until very recently, has been much swollen with œdema. It possessed very limited motion in the shoulder joint, and was incapable of being raised to more than one half the usual distance, from stiffness rather than pain or paralysis. The percussion over the chest was good; but the respiration was bronchial at the summit of both lungs, especially the right, while it was rough and wheezing in other parts, but without marked mucous rattle. The voice was hoarse, the respiration wheezing, the cough frequent and croupy, and attended with a considerable mucous expectoration, semi-opake, partly tinged with blood. It was much relieved by talking and by any mental diversion. The action of the heart was natural and regular, but feeble; the pulse 108, feeble, equal in both wrists and in both temporal arteries. The appetite was moderate, the sleep pretty good, there were no hectic symptoms. Light and warm emollient applications to the part when the pain was most severe gave decided relief.

Great doubt existed at this time at the consultation whether the tumor was an abscess to which pulsation was communicated by the subclavian artery, or whether it was in truth an aneurism. That the external swelling had first appeared above the shoulder as a distinctly pulsating tumor, that it had always preserved this character with each change of situation, that it had dislocated the clavicle at its sternal extremity, and had elevated it an inch or two, that it was without marked increase of temperature when carefully examined—these circumstances certainly favored the idea that the tumor was an aneurism. On the other hand, the absence of the bellows murmur and of the aneurismal thrill, and above all, the circumstance that the tumor had decidedly diminished in size and in pulsation after the sudden and copious expectoration of what was regarded as pus—these facts were certainly in favor of the existence of an abscess. Besides it was difficult to conceive how an aneurismal tumor, if the primary cause of the neuralgic symptoms, could have existed for so long a time without oppression of the respiration, pulsation, and other symptoms of disturbed circulation. In the uncertainty of the case it was deemed proper to test the character of the tumor by the cautious use of the exploring needle, but this was accidentally omitted for a few days.

On the 11th of January, I saw the patient again with Drs. Stevens and Harriott. During the interval the tumor had increased considerably in size, and pulsated as before. A bluish spot existed upon its more prominent part. There was more anxiety, more cough, more oppression; the expectoration was also very abundant, a quart at least of opake mucus, tinged of a brown color in parts with blood, in 24 hours; but no pus was noticed—the œdema had extended to both hands. The examination of the expectoration, which was said to be similar to that noticed formerly when the tumor had diminished in size, and the absence of true pus, together with the general aspect of the case, had much weakened our suspicion of an abscess, while we became much more confirmed in the idea

of an aneurism; the exploring needle therefore was not used. Dr. Mott being called in consultation, and after having twice examined the tumor with care, admitted the extreme difficulty of the diagnosis, but was on the whole disposed to doubt the existence of an aneurism. He stated that the tumor did not convey to his touch the true feeling of an aneurism. He was rather disposed to recommend the use of the exploring needle as not likely to do harm. It was accordingly used, and the groove was found to contain only blood.

On the 12th the patient had an attack of faintness from which he never fairly rallied, but gradually sank and died on the 14th without hemorrhage, or increased symptoms of suffocation.

The *post-mortem examination* was made the following day. Emaciation moderate; both upper extremities œdematous; varicose veins running over the anterior part of the chest in the neighborhood of the tumor, which was quite flaccid. The tumor proved to be a false aneurism of the aorta arising from the ascending portion and the arch, commencing just below the origin of the innominata, so that this vessel as well as the right subclavian artery opened into the sac. The mouth of the sac was about the size of an American quarter of a dollar, and had smooth and even edges. The cavity of the sac was about half filled with soft coagula. The right clavicle and upper bone of the sternum were carious, and portions of dead bone adhered to the walls of the sac. The heart was healthy. The lungs were generally adherent to the walls of the chest by old adhesions. They were not disorganized by the pressure of the tumor, or much compressed, but a good deal congested with bloody and frothy serum. The lower lobes in both lungs presented the evidences of pneumonia in the second stage. The bronchi in both upper lobes were considerably dilated, and their mucous membrane, in parts, exhibited the traces of moderate inflammation; in other parts it was quite pale. No ulcers were noticed. The abdominal organ and the brain were not examined.

In reviewing this singular and interesting case, it seems difficult to understand the cause of the peculiar development and progress of the symptoms. 1st. The development of a superficial neuralgia as the earliest and for a time the only symptom. 2d. The existence of an aneurismal tumor for a long period without pulsation or oppression of the respiration even on violent exercise, such as going up a hill. 3d. The singular, and to me unique point where the aneurism of the ascending aorta first presented itself externally, at the top of the shoulder, and its subsequent gradual migration to the top of the sternum. 4th. The absence of thrill or even bellows murmur, a sign by no means constant in aneurisms, but certainly to be expected in an aneurism so near the heart, so little filled with clots, and especially when communicating with the artery by so circumscribed an aperture. The character of the pulsation in the tumor seems to me worthy of particular notice. If a person gifted with the experience and tact of Dr. Mott could say, after a careful and repeated examination, that such a tumor had not the feel of an aneurism, it should certainly teach us caution in relying too implicitly on this method of diagnosis.

ART. II.—*Report of Cases of Epidemic Puerperal Fever, occurring at Buffalo, New York.* Communicated by AUSTIN FLINT, M.D.

THE committee* appointed at the Semi-annual meeting of the Erie county medical society, June 11th, 1844, to "investigate in as far as practicable, and especially from facts occurring in this county, the causes, history, pathology, and best method of treatment of puerperal fever, beg leave to report, that shortly after the adjournment of the meeting of the Society at which they were appointed, a circular announcing the fact and objects of their appointment, and soliciting facts relative to the subject, was printed and distributed to all the members of the Society, in this city and county. It was also sent to various medical gentlemen in the adjoining counties. It was hoped that the members of the Society and the profession generally in this neighborhood, in view of the great importance of the subject, and the remarkable absence of settled principles, or unanimity of doctrine relating to the causes, pathology, and treatment of this disease, would unite in supplying contributions of all the facts, as data for the proposed investigation, which their opportunities for observation might place within their reach.

The committee have, however, been greatly disappointed in the amount of materials which they have received. They have not been honored with a single communication excepting from the city of Buffalo. This has, no doubt, been owing in a great measure to the fact that the disease has not, since the time of their appointment, prevailed to the extent which, from its previous progress in other sections of our county, was then to have been anticipated. But there is reason to suppose that it is also, to a greater or less extent, attributable to an indisposition to the necessary effort, and a want of an adequate personal interest in the Society, or in an undertaking of this kind.

The committee cannot refrain from expressing their regret that this should be a necessary conclusion. Had the members generally furnished for the present investigation, each but a few cases; collectively, the number for analysis, it is believed, would have enabled us to have arrived at interesting and important conclusions. But feelings of regret are not limited in their application to this instance. It cannot but be regarded as unfortunate for the progress of medical knowledge, the general dissemination of established truth, and the elevation of the character of the profession, that there exists to such an extent among medical men, an

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* The committee consisted of Professor AUSTIN FLINT, M.D., and A. S. SPRAGUE, M.D., of Buffalo; Doctors PRATT of Eden; WALLACE of Aurora, and W. BETH of Wales. The report, herewith published, and in a somewhat condensed form, was presented to the *Erie County Medical Society* at its annual meeting, January 14th, 1845, and has been forwarded for publication in our Journal, by particular request. We take this occasion to thank the committee for their very valuable report, and hope that other Societies may follow so worthy an example. If the local medical associations in the United States would, through committees, composed of their most zealous and intelligent members, investigate in a similar manner, Epidemic and other diseases of our own country, and publish the results in our different Medical Journals, it is hardly possible to estimate the advantages which would thus result from the concentrated labors of the profession. We need but name the Epidemic Erysipelas as one of the diseases which requires such investigation. We regard the report of Dr. Flint, as an excellent model for similar communications. *Ed. N. York Jour. Med.*

indisposition to co-operate for common ends of science, and for mutual improvement.

We have received from several members residing in this city, the details of *eleven* cases of puerperal fever which terminated fatally, and of *three* in which recovery took place. The former embrace, probably, nearly all of the fatal cases which came under the observation of members of the Society under circumstances which admitted of a full record of the facts being made. A few cases are known to have occurred in which the patients were not attended by any member of the Society, or passed from one medical attendant to another, in a manner which prevented complete observation of the phenomena. No means are at hand to determine the precise number of fatal cases of this disease which have occurred in this city, but it cannot exceed twenty, probably somewhat less.

It is, obviously, an interesting and important point to ascertain the number of cases which have occurred, ending in recovery, in order to determine the ratio of fatality. This branch of inquiry presents difficulties. It is a matter of delicacy to decide what combination of circumstances or symptoms is sufficient to qualify cases to be ranked in the same category with those in which the *fatal termination* leaves comparatively little doubt as to the character of the disease.

It is, unfortunately, true that we are obliged to consider the *termination*, in the present state of our knowledge, somewhat in the light of a *diagnostic* event. To avoid all cavil, in the analysis of the cases with reference to the history, pathology, &c., it is deemed advisable to confine our attention to the fatal cases alone. Concerning these, there will not in the mind of any reader arise a doubt as to their being cases of that form of disease referred to in the resolution of the Society.

These cases are, in number, as already stated, *eleven*. We have subjected them to numerical analysis, in the manner proposed in the printed circular. The number of cases are too few to lead to any settled statistical facts. But, few as they are, this appears to be the best mode of developing whatever truth (fragmentary as it must be) which they contain. It will serve to present the most correct general history which we can give of the epidemic as it has been manifested in this city ; and will lead to some consideration, which, it is hoped, may, to say the least, prepare the mind to study the disease hereafter with greater facility and effect.

These cases, it is proper to premise, have been given by the gentlemen who have supplied them, generally from recollection, after a considerable interval of time since they occurred. On this account they are not all of them so complete in details as could have been desired. The facts which *are* stated, however, it is presumed, may be relied upon as correct. The cases which have fallen under the observation of individual members are so few, that the memory is not burthened, and there is not that liability to confusion which would render the records less reliable if the number had been greater. And, moreover, the character of the disease is such that the phenomena are impressed on the mind with a force and vividness which ensures their faithful recollection.

It may be added, that the eleven cases have been furnished by *seven* different physicians of the city. They were distributed as follows :

Two of the number reported *two* cases ; one *three* cases. The remaining four reported but a single case severally. These cases occurred in a period of time intervening between February 18th, and June 15th, 1844.

The dates of their occurrence were respectively as follows:

February	18th	2	cases,
"	19th	2	"
"	25th	1	case,
March	7th	1	"
May	4th	1	"
"	20th	1	"
"	26th	1	"
"	29th	1	"
June	15th	1	"
		11	cases.

It will be observed that, in *two* instances, *two* cases were coincident on the same day; and the days on which this happened were consecutive days. It may be important to state in this connection, that these *four* cases occurred in the practice of *four* different physicians, who were in no wise associated together; and also at different and remote distances of location.

As regards the location of the patients, it so happens that all resided at distances from each other, more or less remote, and were at quite opposite sections of the city.

The disease exhibited no preference in locality, but seized upon patients, each situated at a point disconnected from the others.

The *ages* of the patients exhibit diversity. They are respectively as follows:—

15	1 case,
20	2 "
26	1 "
27	1 "
25	1 "
30	3 "
32	2 "
	11

Nothing is therefore deducible as to the liability to the disease being incident to any particular term of life.

As regards the fact of its following the first labor, or its occurrence being affected by the number of previous labors, we arrive at nearly a similar conclusion from a comparison of the facts under consideration.

In *four* of the cases it followed a *first* labor.
In *five* " " " a *second* labor.
In one " the patient had had 3 or 4 children.
In one " the patient had had 3 "

In one of the cases, in which it was a second labor, the disease followed a miscarriage at the 7th month with twins; both children born living —one shortly dying, and the other still living.

One only of the patients miscarried. This was the youngest patient, being only 15 years of age; a victim of seduction, and driven from her home in disgrace.

As respects the condition and occupation of the patients, it suffices to say, that none were known to have been in destitute circumstances. Several were among the class who enjoy all the comforts of a sufficiency of pecuniary means. A few were laboring women, but in comfortable

circumstances. So far as these cases go, they do not furnish grounds for the suspicion that the external conditions of life are concerned in the duration of the disease.

Of the general health and constitution of the patients exclusive of the period of gestation preceding the disease.—In eight of the cases it is stated to have been *good*. In *one* case the patient had suffered long, and much, from a variety of neurotic troubles; and in *one* case, it is stated that the patient was of a "feeble scrofulous habit." In *one* case, nothing appears on the record with reference to this point. Rejecting this case, the deduction from the remaining cases is, that in 8-10 of the cases it occurred in females of healthy constitutions. This conclusion takes our first impressions somewhat by surprise. Of course, however, with reference to this as to all other points, a much larger collection of cases is requisite in order to settle upon any determinate statistical results. The number of our present cases are too few to permit of our making due allowance for exceptional circumstances or coincidences. Nevertheless, they are sufficient to establish some negative, if not positive facts. We are certainly authorized to conclude that a good constitution is no ground of immunity from danger of the disease.

Next in order naturally follows the inquiry, *what was the condition of the general health of the patients during the gestation immediately preceding the disease?*

In *one* of the cases there is nothing stated on this subject. Of the remaining *ten* cases, in precisely one half, the health of the patients is recorded good up to the time of confinement. In the other half the difficulties experienced during gestation are recorded as follows;—

"Pain and soreness at the lower part of abdomen,"	1 case.
"The same, and especially in neighborhood of the groin"	1 "
Health stated to have been bad without particulars,	1 "
Various neuralgic and neurotic troubles	1 "
Rubeola 5 weeks before confinement, preceded and succeeded by bronchitis, which continued up to time of labor,	1 "
	5

We pass now to make a comparison with reference to a point bearing upon a very important question relating to this disease, viz.—the question as to its being derived from a *materies morbi*, received through the medical attendant, from other patients affected with the disease, or with other diseases supposed to be kindred in nature, and capable of producing the one under consideration, by infection. It is believed by many members of our profession, and various facts (which it does not belong to our present purpose to consider) seem to sanction the belief, that the disease is often, if not generally, produced by a morbific principle generated in patients already diseased—that it is, in other words, propagated by contagion and infection. Various facts have, also, been adduced to show that the disease known as epidemic erysipelas is capable of generating a morbific principle, which, when imbibed by a woman in the puerperal state, will cause the development of *puerperal fever*.

It is obvious, that this is a matter which has very important practical

relations, and which it would be very advisable to settle upon a firm basis. In our printed circular, it was therefore requested, that in the record of each case, the attending physician should state, whether at the time of its occurrence, or shortly previous, he was attending, or had been in attendance on, cases of puerperal fever, or of erysipelas. The records of the cases which we have received are explicit on this point. In not one of the 11 cases had the attending physician in charge at the time, a case or cases of puerperal fever. In *nine* of the cases the attending physician had not shortly, previous to the occurrence, attended or visited a case of puerperal fever. In the *two* cases not included within this last enumeration, the physician had a few days previous performed a post-mortem dissection of a puerperal case in one instance ; and had attended a case five days previous in the other instance. In seven of the cases it is stated that the attending physician was not at the time, and had not shortly previous attended a case or cases of erysipelas. Of the remaining four cases ; in *one*, the fact as to erysipelas is not stated. Of the other *three*—in one case, the attending physician was visiting a family, the children of which were afflicted with the epidemic sore throat, not unfrequently associated with erysipelas. No erysipelatous complication, however, at that time existed ; but it was developed in a case which occurred subsequently, and proved fatal.

In another case, the physician was attending a patient *then* convalescing from an attack of erysipelas. And in the fourth case, the attending physician was in attendance on a case of severe erysipelas, succeeding to an injury. (Traumatic erysipelas.)

In so far as deductions are admissible from these cases, they are certainly opposed to the development of the disease from a specific contagion received from patients already affected with puerperal fever.

In *two* only of the cases, could this mode of causation be the subject of even a remote suspicion. And in these cases, when we consider that the cases happened at the very time when there were indications that the epidemic was about to prevail here, as it had in other places ; that the cases alluded to, fell within the practice of a physician extensively occupied in the branch of midwifery ; and that from him, and from other medical brethren of the city, who had a case or cases of the disease, many females (the precise number has not been ascertained) were equally, and in the same manner, exposed to any influence which might be supposed to be carried about the physician's person—when these considerations are taken into account, in connection with the entire absence of all room for suspicion of contagion in *nine-elevenths* of the cases, it must appear far more rational and philosophical to consider the origin of the two cases referred to, as attributable to a common endemic or epidemic cause, rather than to entertain the idea of their being produced by a material transmitted through the medical attendant.

Of course, it is by no means assumed, that the question as to the possibility of contagion is settled by this investigation. Our conclusions will relate only to the question, as to the origin of these particular cases in this mode. Thus limited, there can be no doubt, that the question may be considered to be satisfactorily settled.

In connection with this topic, it is important to recollect the facts disclosed by the analysis as to the different periods at which the different cases occurred, the different points of location at which the patients resided, and the number of physicians not associated with each other, among whom they were distributed.

These circumstances serve to strengthen the conclusion more directly deduced; and it is truly a subject of regret, that we are not provided with a sufficiently large number of cases, in order that the result might be of a more determinate character, and susceptible of a more general application.

With reference to the derivation of the disease from cases of epidemic erysipelas, in so far as this question involves the instrumentality of the physician as a means of communication, the conclusion is quite as definite, limiting in the same way our view to the cases under consideration.

In *three* of the number only, were the attending physicians in any way connected with erysipelatous disease, at the time the puerperal cases occurred. In one of these cases, the erysipelas does not appear to have been of an epidemic character, but succeeded, as is not unfrequent, an injury.

In one of the other cases, erysipelas did not at the time actually exist, but epidemic sore throat, which in one case, at a subsequent period, in the same family, became complicated with erysipelas. In the other of the three cases, the patient had passed through the severity of the disease, and was convalescing, requiring at that time only one daily visit.

The question as to its origin from the *materies morbi* of erysipelas is, however, open to the remark, that the patients may have been exposed to an infectious influence in other modes, than through the physician. On this point we are without any facts as to the patients who formed the subjects of our cases. We are, therefore, incompetent to prosecute further the inquiry.

This difficulty, it is to be observed, does not stand in the way of the contagion or infection from cases of puerperal fever. All our cases are known not to have been puerperal patients, other than through the medical attendants.

Of some facts pertaining to the connection of the disease under consideration with erysipelas, we shall speak hereafter.

Of the character of the labor which preceded the puerperal attack.

In *nine* of the cases, the labor is reported to have been entirely natural. Of these *nine* cases, this statement is only modified in *two* instances—in *one* of which, it is recorded as severe, owing to the large size of the child; and in the *other*, as rather lingering.

Of the *two* cases not included in this enumeration—*one* was a miscarriage with twins at the seventh month. In all other respects, natural and free from difficulties.

In *one* case only, was the labor, strictly speaking, unnatural and difficult. In this case, the patient, after tedious natural efforts, was delivered with forceps.

We are certainly authorized to infer from the analysis in this particular, that the origin of the disease is in no wise connected with protracted or difficult labor. Probably, during the period within which these cases occurred, more than eleven cases of labor attended with as great difficulties as in the single case, in which instruments were employed, came under the observation of our brethren of the city collectively, without being followed by puerperal fever.

We will now proceed to the analysis of the cases, with reference to the phenomena appertaining to the course of the disease. But first, *of the interval between the labor and the attack, and of the character of the attack as regards suddenness or gradual supervention.* In *one* case the

attack came on eleven hours after labor; this was the shortest interval. In *one* case twelve hours intervened. In *one* case twenty-one hours. In *one* case twenty-eight hours. In *one* case thirty hours. In *three* cases thirty-six hours. In *one* case forty-eight hours. In *one* case fifty hours; and in the case presenting the largest interval, the attack was deferred until the fifth day after labor. In *nine* cases the attack is stated to have been sudden in its accession; in *two* only the symptoms supervening with a gradual approach. We need not delay to make any observations under this head, but proceed to speak successively of the several most prominent symptoms.

a. The Lochial discharge.—In *one* of the cases the fact with reference to this symptom is not mentioned; of the remaining ten, in *nine* instances this evacuation made its appearance as usual, and in the other instance it is so inferred from the record, although it is not distinctly stated. In *four* of these cases it became suppressed shortly after the development of the disease. In *two* it was greatly diminished. In *one* case it is not distinctly stated whether suppression took place or not; and in *three* cases the discharge continued through the progress of the disease.

It was observed by Dr. Hamilton, of Edinburgh, that the continuance of the lochial discharge was a sure criterion by which puerperal peritonitis might be diagnosticated from puerperal fever; assuming that the two are distinct diseases, to which all do not agree. But if the case under present consideration be regarded as exemplifying puerperal fever (which can hardly be doubted), they disprove entirely this opinion; they go to show that the suppression or continuance of this evacuation are neither essential circumstances, diagnostic or otherwise, in the history of the disease; but that the evacuation is oftener suppressed or greatly diminished in its quantity.

b. Of the lacteal secretion as affected by the disease.—*Five* cases are to be thrown out of the analysis for want of recorded facts. Of the other *six* cases, the secretion of milk took place in abundance in *two* instances; in *one* of these cases it was afterwards suppressed, in the other it continued, notwithstanding the progress of the disease. In *four* cases the secretion did not take place; but in *three* of these, hardly time enough elapsed between the labor and the attack for it to take place in the usual order of events.

We have only to remark under this head, that the prevention and interruption of this secretion does not appear to be necessarily involved in the disease, although it may not appear in a large proportion of cases, as is generally supposed. That it may continue, and the disease pursue its fatal course, a single case is, of course, sufficient to demonstrate.

c. Of Chills and Rigors.—In *four* cases they are stated to have been severe. In *four* cases they existed, but the degree of intensity is not recorded. In *two* cases they were present but not severe; and in *one* instance only of the eleven cases they were not well marked.

This symptom is one of the most constant of the symptoms, and is to be considered highly characteristic, although by no means to be relied upon with an exclusiveness, since we all know it not infrequently, and perhaps more generally, attends the changes following labor; and as our present analysis shows, *may* not be well marked, even when puerperal fever is about to take place.

d. Next, of *Pain, its Location and Character.*—As this symptom may be deemed to possess some peculiar importance, we will quote the description given in the several records separately.

It is described in one case as "violent in the pubic region, at first periodic, afterwards constant, and extending over the whole abdomen, continuing to be aggravated at times."

2. In another it was "intense and paroxysmal at first, veering with greater severity in the progress of the disease with temporary alleviation, and continuing until shortly before death."

3. In another it is stated to have been "violent in abdomen, with cramps in limbs."

4. In another, "severe throughout abdomen, but not severe in the hypogastric region."

5. In fifth—"great pain in uterine region and back" is the language used.

6. In sixth—"great pain in bowels, in left iliac region especially."

7. In seventh—"pain all over, but particularly in abdomen."

8. In eighth—particular location and character not specified.

9. In ninth—"slight pain in back and left hypogastric region 2 hours after the chill; none directly succeeding. No pain 10 hours afterward."

10. In tenth—"pain severe in left hypogastric region." In the remaining case it is not distinctly stated as to existence of pain.

According to the history of these cases in this particular, pain is a constant, and, in nearly every case, a prominent symptom; yet it is not necessarily severe, it having been in a single case not prominent.

It is generally, but not invariably, referred especially to the region of the uterus; or, laterally, to one or both sides of the uterine region.

e. The question of tenderness follows next in succession.—In *two* cases the records are deficient in information on this point. Of the remaining *nine* cases, tenderness on pressure over the abdomen was distinctly marked in eight cases. In the single excepted case, no tenderness was discoverable shortly after the attack, but it was subsequently developed in a slight degree. In *four* cases it is recorded as great in degree. In *two* cases the degree is not stated, but only the fact of tenderness. In *one* case it is reported to be especially present "along the course of the broad ligament;" and in another to be present more particularly in the "right hypogastric region."

The same general observations which were made respecting pain, are here applicable.

f. Next in order comes the inquiry as to the existence of *tympanitis of the abdomen.* In *three* cases the records are defective on this point. Of the *eight* remaining cases it is distinctly stated in *three* to have been coincident with the attack. In *one* case it took place 48 hours after the attack; in another 55 hours; in another 6 hours; in another 24 hours. In *one* case it is distinctly stated *not* to have existed shortly after attack, but was subsequently developed. In *one* case it is stated to have existed, but not the time of its development. With respect to the degree of the tympanitis, the cases are generally defective.

This connection teaches us that this symptom is sometimes present from the commencement; and, in the great majority of instances, is developed sooner or later in the progress of the cases; but that it is not an essential element of the disease.

g. Of the condition of the bowels as respects alvine discharges between the time of labor and the attack, and coincident with the latter, the records of the cases generally do not state distinctly. In *two* cases castor-oil was given after labor, which operated favorably. In *one* a cathartic of

calomel and jalap, which was followed by fœtid stools. There seems to have been nothing in this subject exciting particular attention in the observers.

h. The same is true with reference to the *appearance of the tongue.* In *six* cases there is no information on this point. In *two* cases it is stated to have been "dry, reddened and contracted" (two cases by different observers). In *one* "clean at apex, yellowish white at base, and moist throughout." In *one* "dry and furred," and in *one* case "coated."

i. Of gastric symptoms, nothing is recollected in *four* cases; of the remainder, in one case, there was "thirst, nausea, vomiting of much yellow bile-like fluid;" and this was a prominent symptom through the disease, but the patient had taken an ant. solution in this case. In another case there was "thirst, nausea and gastric tenderness." In another "urgent thirst and considerable nausea—frequent vomiting in the last 24 hours of disease of green bilious fluid." In another "nausea and gastric distension. In *two* cases—"eructation of gas," was the only prominent gastric symptom. The phenomena under this head have evidently very little importance in their relations either to the history, pathology or the diagnosis.

j. Concerning *diarrhœa,* which is known to be sometimes connected with this disease, information was not requested by particular designation in the circular. Yet, in cases in which it was a well marked or prominent symptom, it is fair to infer it would not have been omitted in the records. It is stated to have occurred in *two* cases. In *one* of these it supervened toward the close of the disease. In the *other* it took place suddenly on the second day, whilst the patient appeared to be improving, and continued for about 12 hours without any treatment, the patient residing at a distance, and the attendance of the physician not requested. The attending physician in his report is disposed to attribute the fatal issue in this case to this circumstance.

In the remaining *nine* cases it is presumed to have been absent, or at least not at all prominent.

k. Next of the *urinary secretion.* In *eight* cases there is no information on this point. It is stated to have been scanty in the *three* cases remaining, and its color brightened in *two* of them. The only inference which can be here made is, that this excretory function would seem to be but little involved in the disease.

l. Of the phenomena appertaining to the skin.—In *two* cases they are not recorded. In the others they are stated as follows:—In *one,* "hot and dry according to recollection;" in *one,* the same, subsequently becoming moist; in *one,* "dry with erysipelatous patches on the hands and arms;" in *two,* simply "hot;" as to dryness or moisture, not stated; in *one,* "hot but not dry;" in *one,* "cool but moist;" in *one,* "not very hot, and gently perspirable." Thus, it is perceived there is no uniformity in the condition of the skin.

m. Next, of the circulation as indicated by the pulse.—The statements, with reference to this point, are deserving of being detailed in the language of the records separately.

In *one* case the pulse "was 120—full, soft, compressible; never above 125; generally maintained 120 through the disease;" in *one* it is stated "much accelerated at first, quick and compressible, and rose to 150;" in *one,* "140 from the time of attack, small, soft and compressible; in *one,*

"140 four or five hours after the attack, when the patient was first seen, quick, sharp beat, not easily compressed;" in *two*, simply recorded "full;" in *one*, "small and compressible;" in *two*, 120 at first, rose to 140 and 170; in *one*, of these stated to have been *feeble*; in *one*, "112 after attack," said to progressively increase, but extreme of its rise not stated: "full but compressible."

What are the conclusions to be deduced from the analysis? A very considerable, often a great acceleration obtained in all the cases from the outset. In nearly all, the frequency rose rapidly to a very great extent. The lowest number at the commencement was 112. This is an important truth, both in a pathological and diagnostic view. Another point of uniformity seems to be an absence of *hardness* in all the cases. This may be considered as highly important. But, as respects the other characters, there is considerable variation. In some it was *full*, in others *small*, but in only one instance is it stated to have been *not* compressible. We will only remark here, that the pulse in those cases certainly did not manifest the qualities characteristic of *ordinary serous inflammations*.

n. Next, *of the mind before and after the attack*. Its condition *before* the attack, is involved in the inquiry concerning the causation of the disease; hence, information was derived on this point distinctly. The cases are, however, deficient in data on this subject, in three instances.

In *six* of the remaining eight cases, it is stated that there were no evidences that the patients anticipated or experienced a dread of the disease. In seven cases, the mind appeared to be clear and tranquil generally throughout the disease. In one case, the circumstances appertaining to seduction and banishment from home, it would be suspected, might have had some agency in predisposing to disease; there was, however, no sense of danger felt by this patient until toward the close of the disease. The mind, afterward, appears to have been in a state of exaltation, accompanied with entire cheerfulness and resignation.

On the whole, we can discover no evidences in these cases that mental causes were in the least degree instrumental in the production of the disease; and a calm, resigned condition through the disease, would seem to be the general rule.

o. Lastly, *the state of muscular strength claims notice*.

In *five* cases there are no data for comparison. Of the balance, three exhibited, according to the record, "great prostration." In *two* cases, it is stated that *prostration* was *not* marked. In *one* case, the record states, "nervous excitability at first, followed by prostration."

Prostration, therefore, although a frequent, is not an invariable symptom.

So much time has been necessarily occupied in the comparison and enumeration of the several elements of the general history of these cases, that we cannot devote any space to a general summary, and the reflections which might be thereby suggested, but must pass at once to the appearances presented on dissection, and the treatment which was pursued in the cases furnished. We will then devote a little space to some remarks on the causes and pathology of the disease.

Post-mortem examinations were held in *four* instances; being limited, in each instance, to an inspection of the abdominal viscera.

In *two* of the cases, the appearances were recorded by the physician who performed the dissections immediately after the event. The first is as follows—

Examination twelve hours after death.—Effusion moderate into peritoneal cavity; estimated at ℥xvi. The upper part clear serum; the lower portion in the pelvis, muddy. A few small floating coagula of lymph found in lower part of abdomen, by the side of uterus. General aspect of peritoneal membrane healthy, slightly arborescent, but no distinctly inflammatory redness. Stomach and intestines much distended with flatus, some arborescent lines of redness seen externally on intestines; no diffused redness. Intestines not examined internally. Uterus about as large as the double fist; soft and doughy to the touch. No softening, infiltration of pus or other fluids into substance; cut surfaces were white; mucous surface covered with layer of blood, partially coagulated and decomposed.

The second record is as follows—

"*Examination fourteen hours after death.*—Body not emaciated, abdomen moderately tympanitic; unusual fœtor for so short a period after death. About a pint of bloody effusion into peritoneum; some congestion of small vessels in coats of large intestines; large and small intestines tympanitic; around fallopian tubes and ovaries on each side, but especially on the right, purulent lymph; the ovaries covered with a layer of it; ovaries of a dark color, and infiltrated with serum; peritoneum did not present in these, or any localities, distinct evidences of thickening or inflammatory redness; uterus supposed to be of normal size, doughy, internal surface covered with layer of dark, grumous blood; mucous membrane white, and not softened, at fundus, attachment of dark coagula, occupying space of about one and a half square inches. At the fundus and upper posterior and lateral portions of uterus, the venous sinuses presented an intense diffused redness of the lining membrane; it seemed also thicker and firmer. In these respects, the contrast was striking with the sinuses in other parts of the uterus, which were perfectly white.

In the two other cases, the appearances are given from recollection, after a considerable time since the cases occurred; but, in so far as they go, are worthy of reliance.

In one, there was as follows, according to the record:

"Intestines distended with gas; a small quantity of bloody serum in the peritoneal cavity, containing small flocculi of lymph; walls of uterus and parts in neighborhood contained at peritoneal surface several small collections of purulent matter; large quantities of purulent lymph covered the parts adjoining the uterus; the ovaries contained several small cysts filled with clear fluid. The substance of uterus was soft, and contained some fœtid bloody matter; no redness of venous sinuses."

In the other case, there were as follows:

"Intestines and stomach meteorised; slight indications of peritoneal inflammation, about a pint of serum effused, redness and lymph over the ovaries and broad ligaments; in substance and internal surface of uterus, no evidences of disease."

These dissections are not sufficiently minute and comprehensive to meet the requisitions of modern science. The descriptions of the appearances of the abdominal organs are too cursory; and to be complete and satisfactory, the examinations should have embraced other organs, and the condition of the blood, with reference, if not to positive, to negative facts, which, in medical investigations, are hardly less important. A full dissection in some, certainly, and probably in all the instances, was impracticable from the circumstances of the cases.

What is the inference, in so far as the facts warrant any inference? It is, that some degree of peritoneal inflammation exists; but the post-mortem evidences of this inflammation do not correspond with the severity of the local and general symptoms during life; and the rapidly fatal character of the disease. This reflection could not but arise in the minds of all who witnessed the dissections, although it was known in several instances, if not in all, to be opposed to views entertained by the observer before the parts were exposed.

With reference to the redness of some of the venous sinuses of uterus in one case, this appearance was not found in another subsequent case, although diligently sought after. It is, perhaps, more rational to attribute it to imbibition after death, than to pre-existing inflammatory action.

We pass now to the treatment pursued in these cases, and the probable influence to be attributed to this source.

This is certainly, practically, the most important point in the analysis, and were it not for the length to which the report is already extended, we should be disposed to present the facts bearing on this subject as fully as possible. As it is, we will submit the treatment pursued in each of the cases, condensed as much as practicable, and in this connection, state the duration of the disease in the cases respectively.

Case No. 1.—The treatment consisted first (which was pursued shortly after the attack) of sol. antimony and mercurials in alterative doses every four hours. The pains were relieved under this treatment. Venesection was practised sixteen hours after attack to ℥xvi: on the 2d day, six leeches applied to abdomen, vesication toward close of disease over abdomen, hot fomentations, from the first to abdomen.

Duration of disease, four days (96 hours); attending physician states in note, that in another case he should abstain from bleeding, but give narcotics, and perhaps stimulants.

Case No. 2.—The treatment pursued shortly after attack, consisted of laudanum injections, hot fomentations; Dover's powder and camphor; followed by castor oil. The symptoms subsequently seemed to be relieved, so that the patient was deemed progressively amending. Six leeches were applied 38 hours after attack, V. S. 20 oz. shortly afterward; followed by calomel, x grs., opium 2 grs.—which were repeated soon after. V. S. repeated 12 hours afterward to ℥vi. Duration of disease, 62 hours.

Case No. 3.—First treatment of the attack—enemata to move bowels; opium and camphor with diffusibles. Blister to abdomen, hot applications to extremities, no general nor topical bleeding. Duration, twenty hours.

Case No. 4.—Copious venesection (precise amount not stated) four or five hours after attack, calomel and opium—seemed much relieved after bleeding. Subsidence of pain for eighteen or twenty hours—pulse diminished in frequency and more soft. Eight or ten leeches to abdomen shortly after venesection, hot fomentations, enemas, twenty-five hours after first bleeding, repeated V. S. to eight or ten oz., abdomen covered with blister—less relief, castor oil. Duration fifty-four or fifty-five hours.

Case No. 5.—V. S. shortly after attack twenty oz. cath. calomel, followed by oil: fomentations, no relief. Several hours afterward a second V. S. to sixteen oz., repeated calomel and oil, no effect having taken place from the first, 12 hours afterward decided improvement, Dover's

powder prescribed; and patient considered to be on the road to recovery. Owing to distance, attending physician did not see the patient for twenty-four hours; the friends disregarding his directions to send if any untoward circumstance occurred. In the mean time severe diarrhœa had continued for twelve hours; and patient was found in a state of collapse. Duration about sixty hours.

Case No. 6.—V. S. three hours after attack to twenty oz., fomentations; cath., of salts and senna, rejected, and followed by calomel. Three hours afterward twelve leeches to abdomen; three hours afterward castor oil and enemas; five hours afterward opium and calomel, no sensible relief of symptoms in the progress of this case. Duration twenty-one hours.

Case No. 7.—Opium, camphor, and mercury from the first; followed by blister and stimulants—no relief. Duration eighty hours.

Case No. 8.—Treatment similar to the last. Duration sixty hours.

Case No. 9.—Four hours after attack, twelve leeches to abdomen, followed by poultices. Opium, grs. 2 every four hours. Relief and a comfortable night followed. Nine leeches twenty-four hours after the first application; opium and calomel continued, twelve hours afterward (i. e. 40th after attack) V. S. ℥ viii—twenty-four hours afterward eight leeches, twelve hours afterward V. S. ℥ vi. Duration three days.

Case No. 10.—Opium, camphor, with calomel in alterative doses, from the commencement, no sensible improvement of symptoms, excepting of pain. Duration three days and a half.

Case No. 11.—Domestic measures in the hands of the nurse were first pursued to procure perspiration, which succeeded. Cath. of oil followed by Dover powder, prescribed by medical attendant. Alleviation of symptoms ensued, but they became subsequently aggravated; V. S. ℥ xx. with apparently decided benefit; calomel and Dover powder, and mustard cataplasms to abdomen. Afterward venesection—no pain after the bleeding. Duration three days.

Attending physician attributes the fatal issue to the venesection; which he would under similar circumstances on no account repeat.

In all cases but one in which blood was drawn, it is stated to have been buffed and cupped. In the excepted case, nothing is recorded on the subject.

The treatment pursued in these cases severally, is evidence of the uncertainty which hangs over this subject in the minds of practitioners. In conversing with different members of the profession, it is found that great diversity of opinion exists with reference to this matter. The most prominent point of difference has reference to the propriety of depletion by blood-letting. In no branch of the investigation does the regret that the collection of cases is so small, more forcibly present itself than here. A quadruple number would perhaps have led to some very satisfactory deductions. As it is, it will be difficult to draw any positive inferences.

As the cases were all fatal, of course success of medical treatment does not enter the analysis. We can only compare as to the sensible relief afforded of a temporary nature, and the difference in the duration of the disease. Directing our attention to the true relation of blood-letting with the time which intervened between the attack and the dissolution, we may arrange the cases into the following classes:

The first class will embrace three cases, in which blood-letting by V. S. was practised shortly i. e. within a few hours after the attack.

There are three cases to be included within this class. The duration in these cases respectively is as follows:

No. 1	54 hours.
" 2	60 "
" 3	21 "
In all	135
Giving a mean of	45 hours.

The second class will embrace three cases in which no bleeding whatever was practised. This will include four cases. The duration respectively is as follows:

No. 1	20 hours.
" 2	80 "
" 3	60 "
" 4	84 "
In all	244
Giving a mean of	61 hours.

The third class will embrace cases in which bleeding was not practised shortly after the attack, but subsequently in the course of the disease. This class includes three cases; duration as follows:

No. 1	96 hours.
" 2	62 "
" 3	72 "
In all	230 hours.
Giving a mean of	76 "

In one case not included in either of these cases topical bleeding was pursued shortly after attack, and general bleeding afterward. The duration was 72 hours.

It is important to observe that the two extremes of duration of the disease in each class present a wide interval.

In the first class from	21 to 60	hours.
In the second "	20 to 84	"
In the third, "	72 to 86	"

If we were to make deductions from these enumerations, it would result that the disease is shortened in its fatal course by blood-letting; and that blood-letting practised late in the disease tends to prolong its duration. The latter would certainly be an unexpected and not very rational conclusion. We are not authorized to draw numerical inferences of this nature from so few cases. Yet it seems fairly deducible that the disease, as presented in this epidemic, was not favorably affected by blood-letting; nor, on the other hand, were its consequences pernicious.

As to its adaptedness to the disease, in so far as the investigation of these cases is concerned, it seems impossible to arrive at positive conclusions. We must consider the question open for discussion, and only to be settled by the collection of a greater number of facts.

With reference to the other remedial means, it is believed no benefit will be derived from instituting comparisons. We therefore here leave, for the present, the subject of the treatment.

Having now presented to the Society all the facts relating to the fatal cases placed at our disposal, it will be expected that we should state the general views of the cases and pathology of the disease, which, in the

opinion of the committee, are most consistent with these facts. It is unnecessary to say anything of the necessity of *brevity*. This, it is to be feared, is but too apparent to the Society. In order not to lengthen the report, we will present a few propositions, expressing, we do not say truths that are to be considered as established, but which appear most probable, without entering into the course of reflection, or the reasoning which have led to them.

1st. Puerperal fever appears to be an epidemic disease, originating, like other epidemics, in certain inappreciable general causes, which are either migratory, or developed successively in different localities from unknown endemical causes. It appears to have some connection with other epidemic diseases—more especially that known as epidemic erysipelas. Here it may be stated, that the latter disease had prevailed for some months to some degree, before the occurrence of any cases of puerperal fever; continued while these cases were in progress; and has continued, but in a less extent, since that time. The relation of puerperal fever to erysipelas is also illustrated by several facts which occurred in connection with the cases which have been considered. The most striking are the following: Two ladies who watched with a patient with puerperal fever the last night of her life were, within two or three days afterward, each seized with the characteristic symptoms of epidemic erysipelas. In one, the erysipelas was developed, and she passed through a dangerous illness. In the other, all the premonitory symptoms were experienced; but subsided after an active emetic. A laboring woman who was employed to wash the clothes of the same patient, and who, during this duty, received a slight scratch upon the hand, was seized with inflammation of the absorbents extending up the extremity to the neck; with all the constitutional effects of inflammation of the absorbents after a wound received in dissection; and died after a short illness. In one of the cases of this collection, erysipelatous patches existed on the arms and hands. And in another case, which from want of details was not included in the collection, distinct erysipelas was developed on one upper and lower extremity during the short career of the disease. These circumstances go to show some relationship between the two diseases; as to the precise nature of the relation, we have not facts upon which to base any positive conclusions.

It appears to us, however, most probable that they are effects of a common epidemic cause. The occurrence of labor appears to bear to the disease the relation of an exciting cause; leading to the development of the effects of a morbid influence already existing within the system, but in a latent form. It is possible that gestation may contribute to promote the predisposition to the reception of this morbid influence, or its development.

2d. Puerperal fever appears to be, in reality, an essential febrile condition. It is not merely a peculiarly modified form of peritonitis. We have here in the symptoms, the same fact which especially characterizes all essential fevers—viz. a disproportion between those of a local and those of a general nature. And in the appearances after death, the analogy also holds good. The local changes and evidences of disease are inadequate to explain the severity and rapidly fatal character of the disease.

The local circumstances incident to gestation and labor may sufficiently explain the fact of the peritoneum being the seat of the local affection which complicates the disease. They are not sufficient of them-

selves to account for the fact that peritonitis is developed, without any reference to a more general cause. How seldom is purely local peritonitis developed after delivery, under ordinary circumstances!

3d. Such being the origin and character of the disease, it is easy to conceive of the fact of its presenting great difference in its phenomena at different times, and in different locations; and, also, that quite different methods of treatment may be applicable at different periods and places. Different individuals, therefore, who contend for different therapeutic principles as based upon their individual experience, may each be entirely correct. It is probable that no particular line of treatment would be applicable to the disease in all its forms in the same epidemic; still less in different epidemics. This (if true) is a highly important consideration in various points of view.

We will add here, with reference to treatment, first, that, from the preceding views of the etiology and pathology, it follows, that we are to have reference in this disease to a general disease, the nature of which, like all general diseases in the present state of our knowledge, is obscure—to an epidemic, which, like all epidemics, is variable in its character and phenomena. And, *second*, we are not to overlook a local complication which is imposing in its occurrence; and, although not sufficient of itself to constitute the disease, yet constituting a very important and dangerous element of it. A due regard to the patience of the Society compels us to omit further remarks on this and other topics which would suggest themselves in this connection.

[Here follows a report of several cases of puerperal fever, successfully treated, which we omit for want of space till our next number. The report closes with the following remarks]—

With reference to the symptoms and severity, the above cases exhibit great similarity to those which were fatal, in the phenomena presented, and in the dangerous condition of the patients. Their comparison with the fatal cases, as regards treatment, is obviously important. But in this respect, it will be seen that they differ among themselves. In *two*, venesection was practised early in the disease. But here they did not differ materially from those of the fatal cases. The distinctive treatment in these two cases consisted chiefly in the early application of leeches; and in the continued detraction of blood only, by this method, for a longer period and to a greater extent. Both cases were complicated with diarrhœa. Cathartics were not employed; but morphia in decided doses, followed by tonics and stimulants.

In the third case the treatment was characterized by an absence of all depletion, and the employment of tonics and stimulants, in conjunction with alterative doses of calomel and counter irritation.

The reporter of this case stated verbally to the committee, that he had other cases of equal severity, which terminated favorably under similar principles of treatment, which he had not time to report in full, in season to be incorporated in the report.

Our remarks upon the favorable cases must necessarily be very brief. The inquiry will naturally arise, whether they are instances of a form of disease identical with that in which the result was unfavorable; or, if identical, whether the disease was not presented with a more modified degree of intensity? We cannot, after occupying already so much time, enter upon a discussion of these questions. We can only direct attention

to one or two prominent facts bearing on the point, and give the conclusion which appears to our own mind the most reasonable. It is important first, to observe that the *dates* of the favorable cases, with the exception of the first, are at periods subsequent to the last date of the fatal cases—since which, it is not known that any death from puerperal fever has taken place in this city. It is also well known to the practical physicians of the city, that epidemic erysipelas, since the date of the last fatal case of puerperal fever (June), has prevailed much less than before, and with a modified degree of severity. Another very important fact is, that the favorable cases recovered under quite different modes of treatment. In two cases, depletion generally, and especially locally, was the predominant feature of the treatment. In the other, calomel, opium and stimulants, with counter-irritation over abdomen, but without detraction of blood. Assuming that the cases were equal in severity and degree, we cannot, from the facts presented to us in these cases, draw any conclusion as to therapeutics. The different methods (as regards loss of blood), in the cases opposing each other in this particular, will naturally destroy each other; we are compelled to consider the disease (in so far as our present investigation is concerned), as uninfluenced in its termination either by the employment of blood-letting or by its omission. We are not authorized, in short, to draw from these cases any inference on this point.

On the whole, it is the opinion of the committee, in view of the facts before us, that after the period at which the last fatal case occurred, the unknown epidemical influence (supposed to be identical in the causation of puerperal fever and epidemic erysipelas) became deprived of some of its active powers, or lessened in its amount; or, that the systems of our population became inured to its influence—and that, in consequence, the diseases determined by it were correspondingly modified. Knowing nothing of the nature of the epidemic cause, and the precise mode of its operation, it would, of course, be only conjecture to form any opinion as to the kind of modification. Nor do the symptoms of the disease, in the cases reported, give any striking points of distinction. In the present state of our knowledge we can only say, that there probably existed a *lessened tendency to a fatal result.*

The resolution of the Society embraced (by amendment) epidemic erysipelas as a subject of investigation by the committee. The great length to which the report has unexpectedly been extended, would, of itself, be a sufficient apology for not devoting to this disease a distinct examination. But, in addition to this, no materials whatever for such an investigation have been placed at the disposal of the committee.

ART. III.—*On the Pathology of Leucorrhœa, Fluor Albus, or the Whites; with a detail of the opinions relating to it, of some of the most distinguished authors during the last* 170 *years, a notice of the peculiar appearances of the discharge, and an attempt to connect it more directly than has hitherto been generally done, with inflammation of the vagina, cervix, and lining membrane of the uterus. To which are appended numerous illustrative cases.* By WM. C. ROBERTS, M.D., Fellow of the Coll. Phy. and Surg., Lecturer in the Spring Course of the Assoc. for Med. Instruc. of said College; and formerly Physician to the Northern Dispensary.

(Continued from last Number.)

PART II.—We come now to consider the peculiarities of the discharge which constitutes in popular parlance the "whites," and in medical nomenclature the affection called "Leucorrhœa." It is admitted by most observers since the time of Morgagni, that this proceeds both from the internal surface of the vagina, and from that of the uterus. The opinion of authors is divided as to the comparative frequency of the two; but since the introduction of the speculum into practice, the reader may rest assured that the vast majority of those females who apply for medical aid, seek relief against that form of it which exists in connection with engorgements and congestions of the neck of the uterus and a vascular state of its internal mucous membrane, rather than against that which comes solely from the inner surface of the vagina, the opinions of Dewees, Locock and others to the contrary, notwithstanding. We are very far from considering vaginal to be the commonest form of Leucorrhœa. It is very rarely that engorgements and ulcerations of the neck exist, without a morbid increase of the secretion of the internal lining membrane of the uterus, although this, as well as simple increase of the muco-follicular secretion of the vagina, is certainly possible. We have observed that by writers, the leucorrhœal discharge is said to be watery, glutinous, transparent, mucous, purulent, sanguineous, liquid, ropy, glairy, puriform, turbid jelly, sero-caseous, creamy and flocculent, sero-sanguineous, albuminous, semi-transparent, grey, opake and streaked. In color, white, light or pale yellow, greenish, bluish, blackish, brownish and grey. Of these varieties we are enabled to acknowledge only the *transparent or colorless*, like that which escapes from the nose on a cold day, from the urethra under venereal excitement, from the bronchial mucous membrane mixed with, and white from the presence of air, a distinction noted by Clarke; the thin, viscid, milky, starch-like, or as we shall denominate it, the *amyloid*, which is always follicular, coming from the cervix of the uterus and vagina, mixed perhaps with some of its transparent mucus; the yellowish or greenish *puruloid* seen lying in the fundus of the vagina, perhaps discolored by the presence of blood; the perfectly transparent, albuminous ropy jelly which escapes in trembling tenaceous masses from the os, sometimes amber-colored by blood, sometimes semi-opake like the white of egg which has undergone very slight coction, sometimes streaked, like the bronchial mucus, with whitish or yellowish streaks; sometimes, though rarely, even more yellow, like the puruloid. Such are the only discharges that we have seen in cases of true leucorrhœa, whether vaginal or uterine. Of the watery, bluish, blackish, and grey discharge spoken of, we know nothing: never have we found it offensive, and never when proper cleanliness was observed, seen it acrid, although under these circumstances we have several times known

it communicate gonorrhœa to the male, and as that of coryza does, it inflames the part over which it passes. (Lisfranc.) Never but once, in many cases, have we seen a purulent discharge from the vagina; in this case the speculum discovered a large circular *syphilitic* ulceration of the neck of the uterus, its surface yellow from a deposit of coagulable lymph, from whence, since the vagina was healthy, and the uterine discharge, semi opake and yellow only at a distance, the thin purulent fluid doubtless was furnished, which as it healed has given forth a discharge in the language of the patient, "more like the whites." Once only have we seen *true pus* escape in a considerable quantity from the os uteri on the introduction of bougies into its cavity, doubtless from an abscess communicating with it, in the walls of the organ. [V. Ashwell, p. 129 and cases.] Many authors agree in asserting that the leucorrhœal discharge becomes puriform, purulent, or consists of true pus. (Morgagni, Clarke* (but his seem to depend on gonorrhœa), Lagneau, Locock, Ferguson, Bennett, Ashwell, Boivin and Dugès and Churchill call it "puriform," but seem to mean "purulent," and Lisfranc "sero-purulent)." Many others, whom we have cited, do not, however, assert the secretion of pus. Setting aside the case of syphilis and that of abscess, we have, as before observed, never seen true pus in the vagina. In bad cases of leucorrhœa, with *or without even* ulcerations of the neck, the mucus which bathes the neck looks thin, yellowish, or greenish, and very like pus, when accumulated in quantity at the bottom of the vagina. But on removing it with a sponge and extending it, it loses this character and appearance, and seems to be only the transparent, or semi-opake gelatinous mucus from the uterus, streaked with whitish striæ or flocculi, sometimes almost as uniformly white as lard, and not miscible with water.

We were at first disposed to think that some of the yellowness depended upon the admixture of pus from the surface of the cervical ulcerations, or at least of coagulable lymph issuing therefrom: but of this we never could convince ourselves, and doubt whether the simple ulcerations and excoriations of the neck, secrete anything save a transparent mucus from the exposed follicles on their surface. We have seen it too, though very rarely, when there were no ulcerations, and suppose it always to be, in great part, uterine. Certain it is, however, that it exists in the worst cases of the disease, and the stain which it causes on the linen, oftenest indicates that the affection is aggravated, and the probability of their existence. Let us interrogate the authorities on the subject of the discharge. "Generally," says Morgagni, "the uterus is the source of fluor albus." Pus is discharged when ulceration has taken place either in it or the vagina. Serum, or a variously colored secretion, is usually formed when the inner surface of the uterus is affected. "In one case, it contained rather thick whitish matter: ditto in another." Again: "*the cavity of the uterus* was filled with a secretion of a white color, *inclining to a yellowish or greenish hue;*" in another, "from the os and cervix a thick and *almost puriform* mucus issued;" in another, "a thick whitish matter which must have come from the corona of the os and cervix;" in another, "the cavity of the fundus contained a tea-spoonful

* This author, for want of a speculum, and the same remark applies to many others, knew nothing of the secretion from within the uterine cavity, and could not distinguish the origin of discharges per vaginam.

of yellow serum." Here we have yellow matter, not pus, coming from the *uterus*. Boehmer found the *interior of the womb* and vagina covered with a thick *yellow* mucus. "The discharge," say Boivin and Dugès, "of metritis, yellow, greenish or *puriform*, stains the linen of a greenish yellow color when it dries, and stiffens it like starch. As the disease abates, the discharge becomes white and lacteous; sometimes mixed with slimy matter, almost transparent" (the amyloid follicular and natural mucous secretions of the vagina only). "When the passive mucous discharge is abundant, it stiffens the linen as it dries, and generally stains it *greyish*, deepest at its borders." Lisfranc asserts that the "seropurulent whites from the uterine cavity inflames by its acridity the posterior lip and vulva." Recamier speaks of the opake, whitish, yellowish product of inflammations of the lining membrane, flowing from the uterine orifice." All these quotations go to show the probable correctness of our assertion, that the yellowish discharge seen in the vagina is puriform or puruloid mucus, and not true pus, and that it comes from within the os, and is independent of ulceration.*

Respecting the stain upon the patient's linen, all mucous discharges from the genital organs stiffen the linen more or less, as far as we can learn; the amyloid less; the yellowish mucus more. Ninety-nine in one hundred women, when asked the color of the stain, answer "yellow;" a few "whitish." Now, it is necessary, as Doct. Dewees says, to be very particular in our inquiries respecting the quantity and appearance of these discharges, to avoid mistakes. By "yellow," women often mean the very faintest hue of the color, a stain in fact almost of a dead white, and offering yellowness only when examined by a side light. They even apply this term to the greyish stain of the follicular secretion of the vagina, and inasmuch as depth of yellow color is, as Boivin and Dugès assert, a test of the activity of uterine phlegmasia, much of the necessity for insisting upon a speculum examination will depend upon it. The amyloid follicular secretion of the vaginal and cervico-uterine follicles, stains, as we have said, the linen greyish, or like starch, or much as does the semen of the male. The transparent, or slightly opake mucus from within the os, gives to linen a smooth, slightly stiffened spot, which at first looks of a dead white hue; when held slantingly, has a dead, very faint yellow hue. On exhibiting a napkin so stained to two or three females, all of them pronounced it "yellow." The deeper its color in the vagina, the stiffer is the linen, and the deeper is the yellowish or greenish stain, which then certainly does very much resemble that produced by pus from an ulcerated surface. More extensive observation, however, is necessary to establish this point, and the microscope, by detecting, or not, pus globules in the mucus passed, would easily set at rest the question of its existence. The amyloid vaginal secretion is said by women to be "milky or thin;" the uterine mucus to be "thick;" these expressions then become useful guides in the diagnosis; but we must know how to interrogate the patients minutely to avoid error. We hear much said in books of the profuseness of the discharge. This ap-

* We have, at this moment, a gentleman under our care who has a chronic white *mucous* discharge from the urethra, the consequence of urethritis, which, when nearly discharged, makes on his linen a stain precisely like that of water, only less diffused. When dried recently it assumes a greenish yellow hue, and stiffens the linen, exactly resembling the stains seen on that of women having leucorrhœa.

plies probably to the thin follicular vaginal secretion, which may be very copious; but we have very seldom seen women who thought it necessary to wear napkins, though several have complained, among the other incommodities of the disease, of the state of their linen. On one occasion, we were several times presented with considerable quantities of the uterine gelatinous secretion, preserved on pieces of linen cloth for our inspection. Still we cannot help suspecting that there exist in most cases, other and better causes for the serious "debility" so much insisted on by authors, than the amount of the discharge. Cases such as have been mentioned by Ashwell, Colombat and others, have not presented themselves to us.

If the catarrhal affections of other mucous membranes than that of the vagina and uterus be referred to, a certain support will be found to be given to the general non-secretion of pus from these inflamed surfaces. All, when seriously inflamed, do indeed secrete pus, but rarely. Thus at the commencement of otirrhœa, we find the discharge to be first serous; next muco-purulent, greenish or yellowish, but pus, strictly speaking, is of rare occurrence. Every one is familiar with the fact that on a very cold day there escapes from the mucous membrane of the nose, an abundant and transparent mucus; and that in coryza, as the disease advances, this, which is a mere increase of secretion from simple irritation of surface, becomes more consistent, vitreous, white, greenish, yellowish, and opake. But true suppuration is very rare. This, when fœtid, constitutes ozœna, which is oftenest the result of ulceration, whereas simple ulceration of the internal membrane of the uterus is a fact admitted rather than demonstrated. The close resemblance between coryza and leucorrhœa has given to the latter one of its synonyms, *uterine catarrh.* Equally great is that between it and bronchitis. We find Dr. Stokes enumerating the secretions from the bronchial mucous membrane, when in a state of irritation, as follows; 1st, transparent mucous, 2d, opake mucous, or albuminous, 3d, muco-puriform, 4th, puriform, and 5th, serous. The exact analogy between these and the discharges from the uterine mucous membrane, is at once apparent. "An absolutely puriform (Qu? purulent) expectoration," observes Dr. S., "in bronchitis is rarely seen indeed." Likewise, in dysentery and cystirrhœa, in ophthalmia and urethritis, though the existence of suppuration cannot be denied, its occurrence is nevertheless rare, and requires for its production a very high degree of inflammatory action. It may, in truth, be said of the mucous membranes generally, except when the inflammation is due to a specific cause, as in gonorrhœa and glanders, that it is rarely sufficiently intense to produce this result, and certainly it is very uncommon to meet with a form of leucorrhœa acute enough to result in this way. In the many examples which we shall present to the reader, he will find none which invalidate the truth of this assertion. But while analogy teaches us this fact, it compels us also to admit that, as in coryza, a simple exaltation of secretory action, from irritation of the extremities of the sentient nerves upon mucous surfaces, may occasionally lead to the production of one form of uterine catarrh which is not inflammatory (Copland, Burns, Boivin and Dugès). How far such a discharge depends upon a condition of the system, or the parts purely asthenic, may be questioned.

Having then made this reservation in favor of a rare form of vaginal and uterine flux, the former of which we suppose to be always transpa-

rent mucous, watery, or amyloid, from the many follicles which beset the cervix uteri and vagina, the latter clear and albuminous, or at least very slightly opake, since we cannot suppose in a form of discharge not inflammatory, anything more than an increase merely of the natural secretion of the part, we come to inquire, what, according to the best evidence that can be obtained and the arguments which analogy affords, is the true pathology of all other forms of leucorrhœa. To this we reply that it is due to a state of high congestion and irritation, or of actual inflammation of one or other, or all of the tissues which compose the structure of the uterus and vagina. This, with an exception already noted, is the view taken by Boivin and Dugès, and entirely that of Lisfranc. We suppose that when an abundant, thick, semi-opake, striated gelatinous mucus is distilling from the os, presenting, when accumulated in masses, a yellowish or greenish *puruloid* appearance, the mucous membrane of the uterine cavity is of a deep red color from sanguine congestion, or inflammation, softened and possibly even ulcerated, whence is secreted, as from every other inflamed mucous surface, mucus, coagulable lymph, and perhaps pus.

Such are the results which pathological anatomy has established, and they are confirmed by a dissection of our own. In this case, both lips were superficially ulcerated. The redness commenced just at their junction, and extended, of a faint color, a little way within the cavity of the neck; for about half an inch beyond this, the color was a dead white; the redness then recommenced and extended to the very fundus, where, and on the left side, it was most vivid. The redness was patchy and punctuated and very bright over a small mucous polypus nearly in the centre of the uterine cavity. The pale red surface first spoken of, was observed, by a lens, to be rough and granular, and was covered by transparent adherent mucus. The mucous membrane of the uterine cavity did not appear altered in any way other than in color. We have seen the same appearances in three other cases, and in one the uterine mucous membrane was in a state of pultaceous (inflammatory) softening. The ovaria, in the first case, contained numerous injected cysts, and the tubes a bloody purulent fluid.

We suppose that when the thin milky or starch-like (amyloid) mucus is escaping in abnormal quantities from the vagina, the mucous follicles, crypts, or glands of the vagina and cervix uteri, are in a similarly congested, inflamed and irritated condition. But this is not all. Although it is possible that a milder form of these affections may exist without any change of structure appreciable to the eye, we believe that the body of the uterus will oftenest be found to have become engorged under the influence of the fluxionary movement, enlarged, tender, indurated; its neck to be swollen, hot, tender, of a deeper red than natural; the seat of superficial ulcerations, more or less numerous and extensive, and presenting certain differences in appearance; the lips of the os tincæ, one or both, to be enlarged and engorged, the os itself gaping and red within, the vagina puffy, relaxed, and more or less extensively reddened. That all the signs of a metritis, acute, subacute or chronic, of the neck at least, will, in short, in cases of long standing and severity, be exhibited, of which the characters of the discharge constitute an important diagnostic sign, but which the *speculum alone* can reveal in all its extent, of which it alone can ascertain the true nature, and which should, therefore, in all cases of whites, both for the sake of physician and patient, be resorted to. We venture to say that by neither will its use ever be regretted.

Leucorrhœal discharge, then, is rarely a disease per se; it is rather a symptom of a vaginal or uterine phlegmasia (we exclude all other organic diseases of these parts whereof it may be, and often is, symptomatic), assuming different forms, which, though not always, are oftenest combined. The reader will find these views fully corroborated by the quotations from the best and ablest authorities, with which we have furnished him, and the cases which we shall shortly hereafter present to his notice. We shall not dwell upon the subject, but proceed to consider a remaining question in the pathology of the affection. It relates to the manner in which leucorrhœa arises. Does it cause the engorgement, or the engorgement it? Is the engorgement secondary to the ulceration? We have already declared our opinion that the ulceration is not the cause of the leucorrhœa. Lisfranc says, that the inflammation may commence in the vagina and extend to the uterus, the uterus then becoming engorged. In many cases it commences by engorgement of the body of the uterus, and then that of the neck and the vaginitis are secondary to it, and the leucorrhœa is its symptom. From the fact that the uterine leucorrhœal discharge inflames the lips of the os, this mode of progression seems most natural. Lisfranc maintains that ulceration causes and keeps up leucorrhœa. Doubtless it keeps up congestion, and that, in turn, keeps up the discharge. More doubtful is his statement that leucorrhœa may cause ulceration and engorgement: this can be only very partially true. "Non-carcinomatous ulceration of the uterus either *causes*, keeps up or increases hypertrophy." Aphthous or other circumscribed phlegmasiæ of the epithelium of the neck, as in the mouth, or the ulcerations resulting from injury, will determine an afflux of blood to the part and cause engorgement. Generally, however, we should suppose, in conformity with what elsewhere occurs, congestion is followed by ulceration, which is one of its terminations; then, indeed, the new irritation may cause a new afflux to the part, and keep up or increase it. In this way, we consider ulceration to be oftenest consecutive to engorgement, and not its cause. Upon this subject we fully participate in the opinions we have quoted from Gosselin and Bennet. But these are niceties of very little moment, provided we know that such engorgements and ulcerations may exist, and how to detect and to cure them when they do.

If the pathological views which we have now hastily offered, and for the truth of which we refer to our preceding pages and the cases we are now about to offer, shall have found favor with the reader, he will with us acknowledge that to do this there is but *one way*, and the sooner it becomes general, the better. If these remarks should contribute to that desirable end, they have not been written in vain.

It is very remarkable, when we consider the close analogy of the uterine mucous membrane with that of other mucous surfaces, that its true pathology should have been so long unsuspected, and the disease so erroneously attributed to a debilitated condition of the system, and of the part concerned in producing the discharge. And this very analogy supplies a strong corroborative proof of the correctness of the opinion we have advanced; for while we admit the occasional increase, even to a morbid degree, of the natural secretions of parts, unconnected with inflammation, yet when these have presented characteristic changes in their appearance, and even when they have not, and have been attended with the evidences of local disorder, there has never been any hesitation in referring them to a highly irritated or inflamed condition of the secreting membrane, by which the

natural discharges were increased or modified. But with respect to leucorrhœa, this, until very lately, has not been the case, and authors have blindly followed each other in attributing it, in defiance both of fact and analogy, to "weakness," until the very terms of "whites" and "weakness" have come to be synonymous. But, thanks to the improved modes of diagnosis and a sounder philosophy, this long-cherished error must, ere long, be abandoned, and the dependence of leucorrhœa on structural changes, even where great constitutional debility exists, conceded to be one of the best established facts in pathology. We are to remember in this latter case, first, that the debility may supervene upon the long continuance of a local irritation, which may indeed have had some agency in inducing it, less by the profuseness of the flux than of the sympathetic irritation of the organic lesion upon the nervous system and the functions which it controls; secondly, that it may depend on causes wholly unconnected with it; and thirdly, that, in the language of Locock, "whenever the general health is broken down, and much constitutional weakness occasioned, local disease is often the result." The causes of uterine affections are so numerous, so constantly active, so difficult to be avoided, that it cannot be wondered at that this organ should so often be the seat of its occurrence.

Part III.—Having now fulfilled the intention expressed to consider in our second Part the subject of leucorrhœal pathology in particular, as connected with certain morbid states of the female genitals, avoiding, however, any detail of these as belonging to another part of the study of uterine diseases, and to state the results of our observations as to the peculiarities of the discharges which occur in it, and the data which they furnish, we propose to furnish a detail of the cases which have fallen under our own observation, and upon which our remarks are founded, as well as some from other sources, which will, we trust, be found fully corroborative of the conclusions at which we have arrived. We shall confine ourselves chiefly to the pathological appearances and those of the discharge.

Case I.—C. Mitchell, wife, æt. twenty-six. Child four months old—leucorrhœa three years and getting worse. Since the birth of last child much heat in bottom of belly, small of back and *intra vag.* Discharge stiffens linen, and stains it yellow, soiling it so much in a day as to render it unfit for wear; after much exercise escapes as freely as catamenia. *Spec.* on Sep. 27, 1843. Os uteri wholly encircled by an ulcerated and granulated surface of at least half an inch in breadth, of vivid red color: the granulations fleshy, distinct, large like those of a healthy ulcer: clear, tenacious mucus (*albuminous*) hanging from the os uteri, and bathing surrounding parts. Within the os externum, the thin milky (amyloid) follicular secretion exists in considerable quantity. Caustic to ulceration and within the os. Oct. 3d. Less discharge. Tenacious muco-*puruloid* fluid (yellowish in speculum, opake when removed), around and *within* the os. Ulceration of upper lip healing from circumference to centre. Oct. 13th. Less whites—stain yellow, though less than before. Extent of ulceration continues to diminish and granulations to disappear: that of posterior lip divided by a deep fissure. Reapplied caustic. 23d.—Catamenia since last visit. No mucus in speculum, ulceration of lower lip cured: anterior, red, rough and swollen for two

or three lines breadth, a circle of puffy violet redness, elevated, not granulated, around the margin of the os. Reapplied caustic. Oct. 31st. A very little redness around os: a little opake uterine mucus *in vag.*; very little discharge. Nov. 7th. On pressing back the margin of the posterior lip of the os, a red fungus of the size of a pea is seen, the only ulcerated surface. Anterior lip pale rose color: posterior lip a little darker. Still a little congestion of neck—opake mucus between the lips of the os. Less yellow stain and stiffening of linen. Had no discharge for ten days: it then returned, but resembled "the white of an egg." Reapplied caustic. Dec. 6th. Fungus red and smaller, os wide and irregular; on first introducing speculum, a gush of opake mucus takes place from the os: and there is a good deal around the neck. Introduced caustic one inch within the os. Very little leucorrhœa. Mrs. M. did not return, but being seen by Dr. Crane six months afterwards, said she was quite well. This was a case of uterine leucorrhœa: of muco-hysteritis, congestion and ulceration of the neck, probably exaggerated by the last delivery six months before. It was successfully treated by the alterative action of the caustic, and fully bears out, as it regards the condition of parts, the stain of linen, character of discharge, &c, all that we have insisted on previously. As the inflammation abated, we see the opake mucus becoming clear, transparent, and less in quantity. In this woman the introduction of the caustic intra orem, was followed in a few hours by sanguineous discharge, sometimes continuing for some days. This by patients is often considered as menstruation.

Case 2. Bridget Coolachan, 30, wife. Whites for one year—constantly for last six months. Discharge white, stains linen yellow, stiffens it, and is with difficulty washed out: profuse. *Speculum:* Vagina relaxed, deep, capacious, and contains much amyloid mucus. Neck pale rose color: os a remarkably long, gaping and irregular slit. For one fourth of an inch all around it is a deep red line of ulceration continuous with the cavity of neck. Much opake albuminous mucus between lips and in vag. Uterus low.

A case of uterine leucorrhœa, seeming to show that the ulceration of the neck followed the inflammation of the internal mucous membrane, and that it and congestion of the neck may exist separately. Cured by caustic.

Case 3. C. Gonsalves, wife, 27. Married three years—whites ever since; no family—a miscarriage soon after marriage, since when worse. Discharge thick, bloody, staining linen yellow and stiffening it. *Speculum:* At os extern. vag., considerable *amyloid* mucus. Neck of uterus long, swollen and shining, like the glans penis when erected, decidedly vascular when compared with the vagina. An ulceration of vivid red color, contrasting strongly with surrounding parts, half an inch around the os and passing into it. Much opake mucus hanging from os uteri, and in upper end of speculum.

Uterine leucorrhœa: muco-hysteritis, congestion of neck, ulceration. Here it is difficult to say which preceded the other in the order of development.

Case 4. Mrs. Rest, 31, wife. Has had leucorrhœa for eight or nine years, and been variously treated without relief. For the last two weeks the discharge has been unusually profuse, and has a fetid odor: is nursing and had the catamenia seven weeks ago. *Per vag.*, the os is felt to be very open, spongy, soft, and to present a remarkable feeling of rough-

ness : the granular surface large and divided by tangible sulci. *Per spec. :* For at least half an inch around the os, the color of the neck is of a brick red. It presented a broken surfa ce formed by prominent fungoid granulations, the size of small shot, and intersected by sulci. On the right angle of the os are two fungi, as large as buck-shot, separated by a deep fissure which allows of the eversion of the lower lip, on which, passing into the os, the same granulated character prevails. The neck does not feel tumid, nor the body enlarged. July 17th. Vag. full of thick tenacious uterine mucus—upper lip of neck very red, granulated and bleeding. It resembles the conjunctiva in a state of chronic inflammation, and has small vessels running over it. App. Nitr. arg. 21st. Same ; thick mucopuruloid mucus *in fundo vag.* 24th. Leucorrhœa slight and opake. To the touch, lips gritty : ulceration of lower lip almost well, and of upper, less extensive. Granulations smaller and less livid, and sulci nearly obliterated. July 29th. Menstruating. Aug. 7th. Both lips the seat of a rather brick red fungous ulceration ; much opake puruloid mucus in vag. Sept. 12th. "Unwell" since. An increase of whites preceded it : less since than in a year. Stain less, but stiffening of linen more—color white. *Speculum :* The os more easily attained, ulceration less broad, and less vividly red. Only some amyloid mucus in vag. Did not return.

This case of uterine leucorrhœa was of long standing, and the ulceration had assumed the chronic form. She had never been examined, either by touch or the eye, although the case was one of those which fully justified a resort to the latter means, and the touch enabled us, as it has often done before, to form some idea of the condition of the parts, of which the use of the speculum alone could declare the exact nature and extent. We note the varicose condition of the neck (Lisfranc cit.) and the increase of the leucorrhœa during the menstrual molimen. By the speculum alone, could this ulceration probably ever have been cured, and to its use, notwithstanding the senseless prejudices of Doctors Copland and Waller, she would doubtless, had she continued her attendance, have owed an entire recovery from her disagreeable malady.

Case 5. E. Jenkins, 29, wife. Suffered from leucorrhœa since birth of first child. Stain yellow or green. *Speculum.* Inner surface of lips of os very vascular and ulcerated to a considerable extent. Opake white mucus intra orem. Sept. 11. Ulcerations healing ; 19. do. looking very red, tenacious opake mucus between lips of os. In the vagina looks puruloid, but when brought away on the sponge is only mucus, like that expectorated in bronchitis. Vag. excessively relaxed. 25. No mucus in vag. ; ulceration of lips seems to have nearly disappeared. Oct. 19. Return of leucorrhœa for some days—stain yellow ; os encircled by ulceration. Nov. 1. Leucorrhœa slight ; upper lip red, but sound ; upper half of lower presents a red fungous ulcerated surface, bleeding on the slightest touch. Nov. 6. Slight ulceration and bleeding of lower lip; follicular discharge only in the vagina. 27. A very little redness on lower lip, bleeding when touched. Did not return.

Case 6. Mrs. Carey, æt. 40, wife. Has "whites" badly—stain yellow. *Spec'm :* Neck much enlarged ; posterior lip especially, and will not enter the speculum (Ricord's). In a state of hard engorgement, and bleeds but little when scarified. On the upper lip many small red points. The os encircled by an ulceration which looks deep and concave, bleeding and fungous, and covered with clear tenacious mucus.

Ulceration chiefly on lower lip; of a pink purple color. Much muco-puruloid fluid in vagina. A case of muco-metritis, with hard engorgement of the neck. The "points" were probably inflamed mucous follicles.

Case 7. Marg. Spencer, wife, æt. 35. Vagina excessively relaxed; anterior wall and uterus prolapsed. *Spec'm:* Oct. 28. Lips of uterus short, of livid blue color, for two lines around and within the os ulcerated and granular; some opake puruloid white mucus in vagina. Nov. 2. Posterior lip natural; ulceration confined to anterior lip, three lines in extent and semi-circular; bleeds on touch; within the os, the posterior lip is ulcerated and granular. This lip is much the larger of the two. A little above the margin of the ulceration of the anterior lip is a fungous, circumscribed red spot, as large as a pea, apparently the commencement of ulceration. Applied caustic, which gave much pain. Nov. 15. Neck small and of pale rose color; around the edge of the os a mere line of ulceration, of deep red color. Clear albuminous mucus hanging between the lips. Dec. 29. Ulceration healed; neck perfectly healthy: no mucus of any kind visible. The color of this neck, and that of a patient with prolapsus examined to-day, were of a faint bluish rose color, very smooth, lips of nearly equal size, os a gaping slit half an inch wide; no mucus in the vagina of either. A case of uterine leucorrhœa from muco-metritis, with granular ulceration and slight engorgement of the neck.

Case 8. S. McGuire, æt. 22. Leucorrhœa for more than two months, of whitish color, sometimes streaked with blood and staining the linen yellow. *Touch:* Uterus low and inclined backwards; anterior lip swollen, hard and congested to the junction of the vagina; the finger detects an ulcerated surface. The posterior lip is shortest; fissured and rough on its edge. Nov. 17. *Spec'm:* Both lips swollen, red and congested, inverted and irregular; a line of redness just within the lips of the os; it bleeds on being wiped. A considerable quantity of thick white mucus in vag. 23. There is an ulcerated bleeding surface around the os on both lips; it extends high up on the anterior lip, and has a distinct, elevated red edge. The anterior lip so fills the speculum as to exclude nearly the lower one. In the upper part of the vag. some opake mucus of a greenish color, appearing white when examined on the sponge (*puruloid*). Scarif. anterior lip ℥ij. Nov. 27. A good deal of opake mucus in vag. Neck pale, very hard; owing to the inversion and elongation of anterior lip, cannot get the neck fairly within the speculum so as to see the ulceration distinctly. A bad case of engorgement (inflammatory) of one lip, with muco-metritis and ulceration. The husband of this woman had the symptoms of a "clap," a circumstance we have often seen in connexion with simply mucous discharge in the female, which is borne out by the occurrence of purulent ophthalmia in the newly born child, and which has led us to suspect that simple gonorrhœa in the male has no other origin than the acrid nature of this simple blenorrhœa of the female. We have more than once detected nothing else in examining the suspected female, in such cases, and all are aware of the perfect innocence, and sincere regret with which, to their own manifest disadvantage, women unsuspectingly communicate this disease to the persons with whom they cohabit. (V. Ashwell, Am. ed., p. 147, for a case.)

Case 9. Æt. 60. *Leucorrhœa for five weeks; never before in her life.* It was at first white; became yellow at the end of a fortnight, and now stains the linen yellow and stiffens it. *Spec'm:* Neck hard, swelled; lips everted. *Red* as scarlet from punctuated inflammation. It is shining and irregular on its surface, and bleeds on the slightest touch; hence must

be abraded or engorged; a string of opake mucus, looking like pus in the speculum, hanging out of the os; more in the vagina. The vagina is relaxed, generally pale, though here and there injected, offering a singular contrast with the scarlet redness of the neck. In a few days the epithelium of both lips was completely removed, and the surface fungous, raw and bleeding almost to the junction of the vagina. Little or no mucus in vagina. A very bad case of inflammatory (sanguine) engorgement of the neck, *soon followed by ulceration*, which we take to be the natural order of sequence, with muco-metritis, as evinced by the *puruloid* character of the discharge. We see in this case how speedily the phenomena which constitute the disease, may develope themselves, as in all other mucous inflammations, in a person otherwise and previously in good health.

Case 10. Emma Brady, widow, colored, æt. 33 (?) mother of six children; youngest eight years old. Had leucorrhœa ever since. Discharge excessive, greenish or yellowish, staining linen yellow and stiffening it much—streaked often with blood. General health bad (fever, dysmenorrhœa and vomiting, pain, &c.), but does her duty as cook in a family. *Spec'm:* The entire surface of the neck is one irregular, fungous, bleeding ulceration, even to its junction with the vagina, the whole extent of which could not be seen with the speculum. A good deal of *puruloid* mucus in vag. April 10. Ulceration somewhat less, but presenting same appearances. By *touch* we cannot feel much lower lip, and the neck itself is considerably shortened, irregular, very hard, and at one spot adherent to the vagina. This was probably a case of carcinomatous ulceration, whether consequent upon simple engorgement we cannot decide; but, at any rate, it proves the fact that the leucorrhœal discharge is the effect of a co-existing lesion of some sort, not a disease per se, which lesion the touch and speculum are both needed to detect and classify.

Case 11. J. Murphy, æt. 23. A stillborn child two months ago. Has had leucorrhœa ever since she was 15, worse ever since the birth of her first child. Constant, but more profuse just before and after menstruation. *Spec'm:* Anterior lip enlarged and somewhat congested. The whole neck of a darker red color than natural. Immediately around the os and extending within it, is an abraded surface which bleeds on the touch: the ulceration terminates abruptly in the sound mucous membrane. Neck not tender. Streaming from the os is a large quantity of clear transparent mucus; around the neck in the vagina it has the yellow, puruloid character, which on the sponge is seen to be merely the opake white mucus. (Drs. Crane & Markoe.)

Case 12. Maria Cahoone, æt. 30. Leucorrhœa since 1832, for last six months incessant. *Spec:* Neck much enlarged and could not be embraced by the speculum. Around the os for half an inch, a well defined abrasion, terminating in sound mucous membrane, and strongly contrasting with it in color. Opake white mucus in the os. Vagina pale red color and much relaxed; uterus prolapsed. (C. & M.)

Case 13. M. Kennedy, æt. 32. Leucorrhœa for two years past, not constant; generally appearing a week before menstruation and then disappearing. *Spec:* Whole neck engorged, and so large as not to be embraced by the instrument. The whole neck in a state of complete abrasion, extending within the os, and bleeding on the slightest touch. The anterior lip is so large as of itself to fill the speculum. Around the os large fungous granulations of a deep livid red color, of the size of buck-

shot. Ulceration also seen on a fold of vagina in front of the neck. Between the lips of the os, and bathing the neck, a considerable quantity of thick tenacious opake mucus, looking yellow in the mass. That lying in the lower part of the vagina and os externum vulvæ, is the thin, milky follicular discharge, readily washed from the finger, mixing with water and rendering it turbid.

This well marked case is the prototype of uterine leucorrhœa, and fully establishes all that has been said in the preceding pages, both relating to the lesions and to the discharges.

Case 14. Amelia Irons, æt. 28, unmarried. Very copious leucorrhœa for 8 years, wears napkins ; sometimes thick, " like matter," at others albuminous. Stain more or less yellow. *Spec :* Feb. 26. The vagina contains only amyloid follicular mucus. The neck is very small and short. A trace of ulceration around the os. In the vagina near the neck, are numerous enlarged mucous follicles (papillæ) surrounded by areolæ of inflamed mucous surface. They existed as far as could be seen around the neck of the uterus and fundus of the vagina. Vagina not red. Mar. 11. A quantity of thick yellowish or greenish secretion in the vagina, which when removed upon the sponge is of the consistence of cold boiled starch, and quite white (follicular). The ulceration exists on the neck around the os, and passing into it : the circumference of the os seems eaten round as if by cancer. The papillary appearance around the neck no longer visible ; some papillæ still on the anterior wall of the vagina. The entrance of the vagina is dry and rough, bleeding easily, and the introduction of the speculum is difficult and painful. Mar. 25. Neck and os perfectly healthy, no mucus in the os or fundus vaginæ ; a good deal of amyloid secretion in the vagina. The hypertrophy of the mucous papillæ of the vagina, we saw once before ; they, set closely together and much developed, occupied a space upon the anterior surface of the vagina of about two square inches, and to the touch were hard and rough. The follicular secretion is necessarily much increased in consequence.

Case 15. Julia Looney, æt. 27, widow. Leucorrhœa for two weeks past constantly. By the *touch*, a marked engorgement of the posterior lip is felt : by the *speculum* it is seen to be half as broad again as the anterior, and both are redder than natural. The edges of the os are abraded and bleed upon the touch. Between the lips a muco-puruloid fluid. Scarification July 24th. Aug. 2d. No redness or congestion remain. The vagina and external surface of the neck are besmeared with amyloid inspissated follicular mucus. The edges of the os are irregular, but smooth : on their inner surface when separated seem rough and red.

Case 16. (Dr. Crane.) Julia D. single, æt. 22. Uterus low and tender on pressure. *Speculum :* Immediately around the os for an extent of a line, a circular erosion of the epithelium, which extends into the cervix ; the neck of usual size, and of deeper red color than natural ; semi-transparent mucus between lips of os, and in upper part of vagina.

Case 17. (Dr. C.) Mrs. W. Dysmenorrhœa and leucorrhœa of ten years' standing. The uterus contains a well marked isolated tumor of the posterior wall (see N. Y. Jour. Med. and Surg., Oct., 1844), of the character of true *tumor*, and not simple hard engorgement, which it is easy to mistake for it. The neck, *not ulcerated or abraded*, is extremely red, though very small, and semi-transparent fluid in considerable quantity is escaping from the os. A case of uterine leucorrhœa, *unattended*

by parenchymatous congestion, ulceration or abrasion, which, however much they may contribute to entertain each other, are not, since each occurs separately, always to be considered in the light of cause and effect. Had the isolated tumor any effect in causing or in keeping up the leucorrhœa? the latter, probably.

Case 18. Lydia Smith, widow, æt. 30. Leucorrhœa. *Speculum:* Neck of natural size and color; an ulcerated and granular excoriation extends around the os for at least six lines in breadth, and passes within it. Slightly opake mucus issuing from the os. A slight case of muco-hysteritis, extending from within the uterus upon the surface of the lips, and forming superficial abrasion upon the part exposed to the irritation of air, contact, and the uterine discharge, but without parenchymatous congestion; the second form of the disease.* Caustic applied locally a few times, speedily cured her.

Case 19. Mary O'Neil, wife, æt. 25. Leucorrhœa for 10 years. *Speculum:* Neck pale and healthy; a little thick whitish mucus issuing from the os; a quantity of the "puruloid" in the upper part of the vagina, which is pale and much relaxed. A case of simple uterine leucorrhœa, muco-hysteritis; a true catarrh of the womb.

Case 20. M. Johnson, æt. 20, single. Leucorrhœa for one year; constant but increased before and after menstruation. The uterus is low, the cervix small and of too deep a red; opake mucus is streaming from the os; vagina healthy. With the exception of the slight vascularity of the surface of the neck, the same remark applies here as to the preceding case.

Case 21. Mary McLean, æt. 35, wife. Discharge has existed two months, *is "milky," leaves a colorless stain and stiffness on her linen;* the neck and os are beautiful rosy (pale), the anterior lip a little elongated and tender to the touch; the vagina is much relaxed and its wall is covered with amyloid secretion; no opake white or transparent mucus to be seen. Cured by injections of Nitr. Silv., gr. x to ʒi. We quote this case to show the coincidence between the color of the discharge and its stain, and the absence of any uterine lesion, except a little fullness of one lip; and would observe that, if there really be cases of *vaginal leucorrhœa from debility* of that canal, unaccompanied by structural lesion of it or the uterus, *this was probably one.* The condition of the anterior lip may have increased the follicular discharge.

Case 22. Lucy Sidney, æt. 20. Leucorrhœa ever since her child was born (16 months). Has been very copious, and presented a variety of appearances. *Speculum:* Whole vagina red and congested, *and bathed with the amyloid discharge.* The mucous membrane covering the neck, presents the same congested appearance; a clear transparent mucus escapes from the os; the introduction of the instrument caused considerable pain. This may be called simple *vaginitis*, which, by increasing the follicular secretion of the part, induces only a starch-like discharge. That from the os, scarcely more than natural in quantity, is transparent and albuminous.

Case 23. Mary Snyder, æt. 25. Had leucorrhœa one month before, and has ever since the birth of her last child, seven weeks ago. Yellow at

* There are three. 1st, muco-hysteritis; 2d, ditto, with superficial abrasion; 3d, the same, with inflammatory engorgement of the neck and perhaps of the vagina. Each may exist singly or in combination with one or all of the rest.

first and very profuse; is now transparent and thicker, staining the linen yellow and stiffening it very much; a good deal of pain in the back and region of the uterus; worst at night, for which she takes laudanum freely. *Speculum:* Cervix large and very red; a large quantity of thick semi-transparent mucus issuing from the os; on the anterior lip an irregular surface, looking like an ulceration partly cicatrized and extending within the os. The cervix is tender to the touch (Crane and Markoe). A case of muco-hysteritis, with congestion, ulceration and vascular injection of the neck.

Case 24. S. Link, æt. 34 years; married and nursing. Has had leucorrhœa ever since she was sixteen; has been worse since her last child was born; has been long under treatment for leucorrhœa and is getting worse; is in bad health and very despondent. *Speculum:* Both lips of the uterus very much swollen; both, the anterior particularly, of deep purple red color, as is also the whole of the mucous membrane of the vagina at its upper part; a great deal of muco-puruloid discharge, bathing the neck and proceeding from the os; no abrasion. In a month afterward, slight ulceration became visible around its edges. An attempt was made to relieve this case by scarification, but the circumstances of the patient rendered it impossible for her to continue her attendance long enough. It was a very bad case of muco-hysteritis, with parenchymatous congestion of the neck, and intense vascular injection of its exterior membrane and that of the vagina.

Case 25. H. Green, æt. 20. Has had "whites" for 5 months. It is at times profuse, and attended with the usual symptoms in a high degree; much gastro-enteric irritation. *Speculum:* Neck swollen and very red; os open; semi-opake mucus escaping, and a large quantity of the "puruloid" in the vagina, which is throughout intensely red and excessively relaxed; no ulceration or abrasion visible. A very bad case of muco-hystero-vaginitis, with congestion of the neck. Never have we seen the vascular injection more vivid, nor the discharge more deceptive in appearance, yet it was, upon close inspection, only the opake white mucus. By repeated scarifications the case began to improve, after a very long while, when, owing to a particular circumstance, she discontinued her attendance.

The preceding cases, with two exceptions, occurred in the practice of the Northern Dispensary, and were observed in conjunction with our very zealous and intelligent colleague and friend, Dr. James Crane, jun., of this city; we shall next furnish a few additional ones from our own practice.

Case 26. S. Bailey, prostitute. This young woman was confined rather prematurely, and did not resume her vocation for at least two months afterwards. She has had leucorrhœa ever since. She complains of severe pain low down in the hypogastric region, increased by coitus, much walking, &c. The stain is yellow and stiffens her linen. By the speculum, no mucus is seen about the vulva, but the upper end of the vagina contains a good deal of thin muco-puruloid matter. The neck is much congested, of a livid red color, tense and shining, and very tender. The anterior lip most swelled and inverted, a narrow red abrasion encircles the upper edge of the os; the lower lip for a space of half an inch is cherry red, granular and bleeding. Pale yellow stains on linen, which, when dry and scraped with the nail, yielded a fine powder. She was slowly improving under treatment, when she departed suddenly for the south.

Case 27. Susan ——, æt. 20 years. Complains of leucorrhœa with few or no constitutional symptoms. Having acknowledged the fact to a young acquaintance of mine with whom she has lately formed a liaison not wholly platonic, I was requested to ascertain the nature of the discharge. This young person is by no means in the habit of promiscuous intercourse. *Spec.:* Much inspissated amyloid mucus in the vulva. The neck has the virgin character, but is rather tumid; it and the vagina adjacent are of a bright crimson color, from vascular injection; on the neck a good deal of thick starchy mucus. The discharge is wholly follicular. None of the opake white or puruloid is to be seen. The os is encircled by a narrow elevated rim of bright scarlet color; no discharge from it. This case improved under scarifications and the external use of caustic. The patient went into the country for some weeks, and returned quite well. It was a case of inflammation of the mucous membrane of the neck and vagina *only*, and gave rise only to the white mucous (or as we call it amyloid) discharge very properly considered as diagnostic of this condition of the part by Sir C. Clarke. It is one of the very few cases of leucorrhœa not uterine, which we have met with.

Case 28. A. T., æt. 27. Complains of very free bleeding per vaginam, every time she "sees her friend," with mucous discharge at other times. By touch the posterior lip is engorged, the uterus low and not tender. *Spec.:* The neck is large, its color natural. There is slight ulceration on the lower lip, passing up towards the cavity of the neck, and bleeding on touch; a quantity of tenacious mucus of a fawn color, almost like jelly, is pendulous from the os. On the second examination (the dates have been neglected in the report), the ulceration had rather extended, and some opake white mucus existed in the vagina. Blood still follows coitus. May 24th. Has abstained from coitus for ten days. Muco-puruloid fluid in the vagina; the ulceration on the lower lip is smooth and of a deep red. On passing caustic within the os, blood flows freely, and continued to do so for two days. The neck, since it was scarified, is rather smaller and rather "sore" on touch. June —. Ulceration extended on the lower lip, and within the os is a reddish body, which is either a little polypoid body or fungous excrescence of the inner surface of the lower lip, bleeding on the touch. Some muco-puruloid fluid in the vagina. June —. Ulceration of lower lip healed; fungous body diminished in size; no blood now follows coition. June 7. The neck is now so small as not nearly to fill the second size Lisfranc's speculum: the edges thin and color natural. A trace of ulceration on one angle of the os, bleeding on rough application of the sponge. A little transparent mucus between the lips of the os, and some opake white do. in vagina. At the next inspection, she was quite well. A case of uterine leucorrhœa, with engorgement of lip and hæmorrhage from the ulcerated and fungous surface, arising doubtless from the too frequent exercise of her vocation.

Case 29. M. A. D., æt. 30. Leucorrhœa. May 9. *Spec.:* Neck little changed in color; os wide, deep red inside, with puruloid mucus between the lips; no ulceration. By touch, neck feels hard and engorged, especially posteriorly, but not much enlarged and rather low. May 16. Os deep red—clear transparent mucus between the lips. July 31. Leucorrhœa, which had nearly ceased, returned. Neck pale and seemingly œdematous; posterior lip engorged: a thick mass of yellowish mucus hanging out of the os, extremely tenacious; inside of os red, and bleeding slightly when touched. June. Puruloid fluid in

vagina. This simple case of muco-hysteritis with congestion of the neck, was again speedily relieved by cauterization.

Case 30. A. M., æt. 20. Mar. 17, 1844. Examining the labia of this woman affected with aphthous ulcerations, I observed a great quantity of opaque mucus between and upon them, and pale yellow chalky stains on the linen. *Spec.* The fundus of the vagina contained a good deal of thick mucus, at that distance "puruloid," but nearly clear upon the sponge, and streaked with striæ of a yellowish white, as we see in bronchial mucus. Around the os an abrasion as large as a shilling, bleeding on the touch of the sponge. Clear mucus between the lips of the os. Vagina, near the neck, much redder than natural. 23d. Ulceration less red and half the size; very little discharge and stain whitish, a little thick follicular (amyloid) mucus only in vagina. This simple case of muco-metritis soon recovered.

Case 31. Mrs. B., æt. 23, married. Oct. 1844. Has had since May last, a yellowish discharge *per vaginam*, never any "whites" before. It has not been constant, but for two weeks has been so, and coitus is very painful. She looks delicate: has not very lately miscarried, and has carried conjugal enjoyments to an unsafe degree of frequency. To the *touch*, the posterior wall of the neck is hard, irregular, prominent and tender, but the engorgement is not circumscribed like the isolated tumor, to which it bears some resemblance. The uterus is prolapsed. *Spec.* Vagina pale and very much relaxed; much milky fluid in vagina. The anterior lip of the uterus much swollen; of a pale rose color, the edges of the os irregular; all around it for the extent of an inch is a red abraded surface, bleeding when wiped. It was cauterized for a little distance upon its edges. A thin transparent mucus, streaked with whitish lines, is distilling from the os. The vagina is pale, the stain on the linen of a pale yellow like that of recent pus.

Case 32. Mrs. W., Sept. 17, 1844, married, æt. 20. Has had leucorrhœa for two years, and undergone a variety of treatment. States that she "makes Mr. W. unwell" occasionally, that is, causes in him the symptoms of gonorrhœa. The discharge leaves a pale yellow stain and is acrid; patient never pregnant. The introduction of the second sized Lisfranc's *speculum* caused pain. The neck was small, turgid, its lower lip nearly covered by a fold of the vagina, which, as well as it, are of a fine bright pink color, inclining to red. The os is circular and very red inside, but no ulceration is visible. Here and there, small bluish and whitish spots are discernible on the smooth and shining surface of the neck. A thick mass of tenacious semi-opake mucus hangs from the os, and is with difficulty removed; a quantity of the same in the vagina, but none of the follicular: the neck is very tender. 23d. Neck covered by a deposition of follicular secretion and in patches, of a bright red. A long string of tenacious, viscid, opalescent, albuminous mucus hanging from the os, which cannot be removed, and a good deal of the same in the upper part of the vagina. Scarif. Caustic; T. Ergot. Oct. 5. Neck red, having some brighter spots on it; upper part of vagina filled with a quantity of the semi-opake mucus which discharges from the os, with a long string extending from which it is connected, so tenacious as to be with difficulty wiped away. Stain on napkin, a pale yellow, not stiffening it much. Omit Ergot, which seems to do harm. Oct. 11. No mucus in the vagina, and only a small string of nearly transparent mucus, issuing from the os, but the lips and vagina are too florid. Oct.

31. A string of pearly mucus protruding from the os. Within the os, as seen by Charrière's four bladed speculum, in a very strong light, deep redness is visible, the neck and vagina of a bright rose red, and the posterior lip much enlarged—along its centre, a bright red band, which does not bleed. Nov. 9. Neck paler and smaller, after leeching; bright red zone along the lower lip very evident, but does not bleed. A large quantity of slightly opake tenacious mucus pouring from the os and over the lower lip, which in the upper folds of the relaxed and œdematous vagina looks yellow; below it contains the amyloid only. The mucus of the uterus, when removed, seems as clear as the white of egg, except for some whiter striæ intermingled with it. Pil. copaib. cauteriz. V. S. This is a specimen case of obstinate uterine leucorrhœa, with congestion of the neck, and some of the "morbid rednesses" of Lisfranc about it; it fully confirms all that has been previously said upon the subject, and is, I hope, mending slowly under the treatment adopted, which has been antiphlogistic and local.

We shall next furnish some cases from cotemporary authorities.

Case 35. (Mons. Récamier, loco cit.) "In consequence of a confinement, a young person became subject to a supra-orbital cephalalgia, of the most fatiguing kind, and almost incessant. She had, at the same time, a very abundant leucorrhœal flux, opake and sometimes bloody, when not menstruating, although the touch indicated no lesion of the neck, nor body of the womb. I found the circumference of the os surrounded by a red areola, tender, and bleeding easily on touch, or when absterged. The redness passed into the neck (cauterized by Nitr. Hydr. injections and starch powder). In six weeks, the phlegmasia of the mucous membrane of the neck, the leucorrhœa, and the headache of four years' duration were cured." A case conclusive both as to the pathology of leucorrhœa, and the necessity for the speculum as a means of supplying the deficiency of the touch. Light is here thrown both upon the nature of vaginal hemorrhage, and of cephalalgia. (See also case 28.) *Case* 34. (Same.) A young woman, twenty-four years of age, had been emaciating considerably for two years; she had an abundant leucorrhœal discharge, *of which a chronic inflammation of the os was recognized as the cause.* By the same treatment, she soon recovered strength, flesh and color, menstruated and conceived. This, to an old practitioner, would appear a case of leucorrhœa from "debility," and is a type of most of its class.

Case 35. (Same.) A lady aged 27. Had had, since her confinement, prolapsus, which presented a state of chronic inflammation. All the red and granular part was cauterized, &c. She was cured and became pregnant.

Case 36. (Bennett, loc. cit.) Resulting from labor. "Rather vivid redness of the neck and lower part of the vagina; a small ulcer with fine granulations occupying the inner surfaces of the two lips; mucus between them *turbid and whitish;* in the cavity of the vagina is found a small quantity of *mucoso-purulent* secretion." In ten days after, neck larger and firmer; ulceration extended beyond the cavity of the neck, and occupying both lips; a small quantity of whitish mucus." The iritability of the ulcerated surface being destroyed by caustic, the affluxus towards the uterus ceased and the engorgement diminished. We appeal to this case as a full corroboration of the accuracy of our own statements.

Case 37. (Boivin and Dugès. 392.) "With the assistance of the speculum, some reddish brown spots were observed on the os uteri, placed on a ground nearly white; a viscid *yellowish* fluid issued freely from its orifice."

Case 38. (do. 363.) Obstinate leucorrhœa. "Utero-vaginal orifice tumefied, tender, livid, red and ecchymosed; on the anterior lip two tumors the size of a pea. *White* discharge proceeding from cervix (Qu. *os?*) uteri."

Case 39. (do.) Mme. M. had experienced for some months a sense of swelling and weight in the vagina, with a discharge of greenish white matter. On examination, cervix uteri low down in the vagina; much tumefied, though soft and yielding to the finger. The part appeared deep red, the borders of the orifice superficially ulcerated, and of a red brown. Application of the instrument caused a discharge of ʒi of pure blood.

Case 40. (do. p. 375.) On examination, eight days after catamenial discharge, observed a *yellow* viscid fluid to escape in abundance from the os, which was one-third larger than natural, presenting on its surface a livid redness, resembling that kind of nævus which is commonly called "wine stain." There were also at that part, several small whitish and soft elevations, inappreciable to the touch (granular inflammation of the os). It was from the intervals between these miliary papules that the blood escaped on pressure.

Case 41. (do. p. 376.) Catamenia abundant and irregular, accompanied with leucorrhœa, and considerable tumefaction of uterus. Surface of the os livid and beset with miliary vesicles (granular inf.). The os bleeds on pressure and in defecation.

Case 42. (do. 407.) Mme. C. habitually subject to greenish white leucorrhœa in great abundance; os swollen and elastic: a little sanguineous discharge. The os is of a red brown color and edges excoriated. The discharge proceeds from the interior of the orifice. Some years afterwards the disease re-appeared. On a fresh examination, "the os was of the size of a large chestnut, widely open, with its borders excoriated. The anterior lip presented a superficial ulceration all over its surface, exposing the sub-mucous tissue vividly red, and bleeding on the slightest touch."

Case 43. (Dr. Buel.) H. L. æt. 28. Subject to leucorrhœa for ten years. The cervix elongated, hard and painful; color much heightened and evidently much swollen. Dec. 31. Cervix looks swollen, and has an angry livid appearance.

Case 44. (do.) B. F. æt. 27. Cervix hard, swollen, painful to the touch; color much heightened; a profuse white discharge.

Case 45. (do.) E. C. Sept. 3. Anterior lip of os much engorged, hard, painful, swelled, of livid color; abundant brownish discharge. Sept. 5. Much better; a white discharge.

Case 46. (do.) H. P. æt. 30. Sept. 13. Cervix enlarged, indurated, heightened in color, red, thickly studded with little granules, resembling the papillæ of the tongue. Parts bathed in a profuse whitish or yellowish discharge.

Case 47. (do.) C. P. 47. Hard white engorgement of cervix. Profuse leucorrhœa.

Case 48. (do.) E. M. æt. 31. A profuse discharge; at first yellow, afterwards white; cervix enlarged, hard and tender; os livid, patulous,

with ulcerations rather on the inner portions of the lips and extending into the canal of the cervix.

Case 49. (do.) S. R. æt. 21. Has an infant 13 weeks old; since her confinement has had pain, &c., &c. Cervix hard and livid; very low; a large ulceration on inner surface of anterior lip; a yellow discharge from the cervix (?) and adjoining parts of the vagina.

Case 50. (do.) M. H. has a constant discharge of yellowish matter. A large ulceration or erosion, three-fourths of an inch wide, having a granular appearance, covered by opake white mucus, and bleeding easily when touched. 25th, large granulating surface, and profuse white discharge. The preceding cases all show satisfactorily the state of the uterus, but the precise source of the discharge is not, it is to be regretted, stated in a single one.

Case 51. (Dr. Taylor.) Mrs. B. By touch discoverved the posterior part of the uterus of the size of a hen's egg, and hard. The anterior natural. By the *spec.* os (neck) of a rose color (hard engorgement); discharge of leucorrhœa from the uterus.

Case 52. (do.) M. D. æt. 32. Leucorrhœa for two years; neck full, large, round, thickly papillated; os red and nearly closed with glairy discharge from the uterus. Vaginal (?) secretion yellow.

Case 53. (Dr. Beales.) Mrs. F. 22. *Per vag.*, uterus swollen, rather tender, hotter than natural; lips of os pouting. *Per spec:* whole vaginal part of uterus engorged and red.

Case 54. (do.) Mrs. K. æt. 23. Excessive leucorrhœa; cervix uteri exceedingly painful to the touch. *By spec:* parts swollen to about the size of two nutmegs, and a quantity of stringy mucus emerging from the os.

Case 55. (do.) Miss B. 32. Considerable leucorrhœa, of a yellow color; cervix uteri deep red; anterior lip swollen, sensible to touch; mucous membrane of vagina heightened in color and bathed in mucous secretion.

Case 56. (do.) Mrs. A. Complains of excessive leucorrhœa, discharge of a greenish yellow, very fetid, and so profuse as to compel her to wear 18 or 20 napkins in a day. The vaginal portion (cervix) of the uterus, very much enlarged, four ulcerations on its anterior lip, three about the size of a split pea, the fourth more than twice that size, all foul looking, and about one line deep. "Vag. almost filled with its (?) morbid secretion and strings of tough, ropy mucus hanging out of os, of such tenacity that I could not sponge them away."

Case 57. (do.) Slight leucorrhœa. Cervix somewhat enlarged, of a very bright red color, with three or four fissures leading into the os, the edges of which are in a state of ulceration, and the whole organ excessively tender.

Case 58. (From Balbirnie, on the French pract. in Fem. dis. quoted by Ashwell.) Mme. R. aged thirty. A continual and abundant discharge of yellowish, thick, brown mucus from the vagina, or of a glairy matter, like the white of egg, sometimes spotted with blood; all the surface of the os covered with a thick mucus, which, when wiped away, presented a greyish white color, contrasting with the red tint of the neck; slight lineary excoriations observed in the direction of the orifice. On pressure, a considerable quantity of thick mucus issued from the os. (Soot tea injection into cavity of the uterus.)

Case 59. (do.) Mme. L. aged thirty. From the neck, seen by the *spec.*

exuded on pressure a great many drops of blood (sang. engorgement); the edges of the os tumid, and of a lively red; on the posterior lip a small deep ulceration; a yellowish white discharge, proceeding from the uterine cavity, impregnated all these parts. (Soot water injections into the uterus—cure—pregnancy after 10 years' sterility.)

We have now presented to the reader fifty-nine authentic cases, in which leucorrhœal discharge depended upon organic lesion of the womb, or vagina; it would have been easy to have increased the number, but this would be unnecessary, for unless it can be shown that, which is contradicted by the united testimony of all who have published the result of their observations, leucorrhœa is also frequently seen to exist in the absence of any appreciable morbid state, these are surely sufficient to establish the real and symptomatic nature of the flux in question. In forty-six out of these fifty-nine cases, it is distinctly stated that the neck of the uterus was either swelled, red, livid or granular; in two or three only it presented a natural appearance as to size and color, the redness being confined to the internal lining membrane. In thirty-three out of the fifty-nine, ulcerations existed: in forty the discharge was distinctly seen to be escaping from the os uteri; in others this is not noticed; in five the vagina was red, and in two only was the discharge chiefly follicular. The last statement sets at rest the idea that leucorrhœa is, for the most part, a vaginal disease; whereas its almost constant connection with an inflamed state of the neck and internal mucous lining of the uterus, and vagina, is clearly demonstrated by evidence which we firmly believe cannot be shaken, and the truth of which further observation will serve only to confirm. The progress and effects of the inflammation are not the same in all cases; in some we find only the mucous membrane of the womb vascular and secreting an increase of its natural, or a somewhat modified discharge. In others, ulcerations of a more or less depth, extent, vividity and variety of appearance, are met with; in many cases associated with general or partial swelling and redness of the neck, with granular tubercles or papules, and with more or less redness of the vagina, in which case the follicular discharge of that part is usually much increased. Which of these lesions is the starting point it is difficult, though practically not unimportant to decide; but it is perhaps sufficient to know that such is their mutual dependance on each other, that each, when met with, requires special attention before coexisting ones can be removed. Thus, a muco-hysteritis may cease upon, or its cure result in, the disappearance of a congestion of the neck; while the latter has equally been seen to subside upon the cure of an ulceration, or an ulceration to require the removal of one or both of the other morbid states, before it could be made to cicatrize. Such we believe to be, even in cases which present the appearance of great constitutional debility, the true pathology of leucorrhœa; and we flatter ourselves that we have in the foregoing pages, drawn the attention of the profession to the fact, scattered about we acknowledge, in many volumes, but not before insisted upon and illustrated with equal force and distinctness, of the dependance of leucorrhœa upon certain phlegmasial states of the vagina and uterus, of its being not a disease per se, but a mere symptom of disease in the parts by which it is secreted, and seldom, *if ever*, the result of simple atony of those parts, as has so long been surmised. Nor is the discharge alone, we apprehend, often, if ever, the sole cause of the debility which confessedly so often at-

tends it, but which depends rather upon the constitutional irritation and derangement of the general health, consequent upon the existence of a chronic local phlegmasia. The error which Broussais so ably exposed relatively to certain cases of dyspepsia, has been extended to the disease in question; the morbid effects of chronic gastro-enteritis, and muco-hysteritis, and to a certain extent their pathology, are analogous, and their cure depends alike upon a judicious employment of a suitable anti-phlogistic treatment, and the avoidance of the natural and artificial stimuli of the organs diseased. But, while we have questioned its frequency, and adduced abundant evidence to justify our incredulity, we have not wholly denied the rare, but possible occasional indubitable occurrence of cases of either, dependent, if the reader will, upon a simple atony of the part, or an increase not appreciably morbid of the secretory irritation upon which the phenomena of either depend. The term "weakness" has long been a cloak for ignorance, and the more enlightened pathology of modern times has established that of all chronic fluxes upon a more rational and scientific basis. Few are not now known to depend upon a state of inflammation more or less acute: if there be other causes for the uterine, we have not encountered a case which countenances the idea. The lesions of the vagina and uterus with which we have shown that leucorrhœa is so invariably connected, are not sufficiently appreciable and seldom curable without the aid of the speculum, an instrument as ndispensable in the treatment of the diseases of these organs, as the stethoscope in those of the heart and lungs, and to the non-use of which the errors of our predecessors on the subject of the uterine catarrh are referable. It is not even now—for two very obvious reasons, the disagreeable nature of the investigation, and the natural repugnance of both physician and patient to its use—the custom to employ it in the treatment of leucorrhœa. But if the physician can but become assured of its value and necessity in these cases, he will, in justice to his patient and himself, recommend and employ it. Its use will then become custom, surprise at its proposal will soon cease to be felt; nay, surprise may even be expressed if the *usual* means of full investigation be not resorted to, and the sufferer with leucorrhœa will look to be examined with the speculum with as much certainty as the pthisical one does to be percussed and auscultated. The objections to its use must yield to the sense of its *necessity and utility;* and when conscientiously and properly urged, there will be found, after all, few sensible and right-minded females who will object to its employment; when properly used, few will refuse to consent to a repetition. We trust that no other than a conscientious belief in both, founded upon our ideas of the nature and cure of the affection, and the opinion of others, impels *our* advocacy of it in the disease in question, and whenever it shall come to be generally employed, much suffering will be speedily obviated, many errors in diagnosis corrected, many a barren woman will become the joyful mother of children, and many a case of ultimate degeneration into incurable malignity, will be prevented. If any such object be effected by the perusal of this essay, the time and labor which it has cost to produce it, will not have been spent in vain.

ART. IV.—*Surgical Cases.* By ALFRED C. POST, M. D., Surgeon to New York Hospital, &c.

CASE I. Subcutaneous venous erectile tumor of cheek. Ligature of the common carotid artery. Death from phlebitis with deposition of purulent matter between the membranes of the brain.

Michael Lilly, an Irish laborer, 27 years of age, called on me in April, 1845, to consult me about a tumor which involved nearly the whole extent of the right cheek, and projected externally and into the cavity of the mouth. The tumor was evidently formed of a congeries of dilated veins, some of which could be distinctly seen through the skin, and others through the mucous membrane. When the patient stooped and made any exertion, as in tying his shoe, the prominence of the tumor was greatly increased. The thickness of the tumor when distended was about two inches.

From the time of birth until about three years before he called on me, there was merely a small discolored spot upon the cheek without swelling. At that time it began to form a prominence upon the cheek and to increase in size, and it continued to do so until he came under my care.

April 12th. After consultation with the surgeons of the New York Hospital, I applied a ligature to the carotid artery, just above the omo-hyoideus muscle. The operation was borne without the slightest indication of suffering. The wound was dressed in the usual manner with sutures and adhesive plaster. The patient was directed to be kept quiet and to live on gruel.

On the afternoon of the same day the patient was tranquil; pulse 60. For several days afterward he complained of soreness in the wound and difficulty of swallowing; pulse fluctuated between 84 and 95.

16th. Removed the straps and sutures. The edges of the wound gaped a little. Applied adhesive straps and lint spread with cerate. Patient appears very comfortable; pulse 88; skin cool; countenance good; tumor much less prominent than before the operation.

22d. Had this morning, without any obvious cause, a fainting fit, with cold extremities and very feeble pulse. Sinapisms were applied to his extremities, and he very soon recovered. When I saw him a few hours afterward he appeared comfortable; pulse 68, and of moderate force. 24th. Pulse 72; tongue, which had been somewhat dry and furred, becoming clean and *moist;* wound healing; condition every way improving. 29th. Improvement has continued until to-day: the wound has healed, excepting a small space around the ligature. This morning he was attacked with a chill, followed by febrile excitement, headache, &c. Pulse 100; skin warm and moist; tongue rather dry in the middle.

May 1st. Complains of soreness and stiffness in the right side of the neck, above and behind the wound: there is some swelling with tenderness in the same region. Pulse 100 and rather feeble: the patient appears much prostrated: bowels rather confined. Ordered ol. ricini; three leeches to the neck; wine-whey. 2d. Soreness of neck somewhat relieved by the leeches: patient feels rather better: pulse 96 and feeble: skin cool: tongue less dry. Complains of soreness in the tumor of the cheek, which appears somewhat inflamed. 3d. General condition about as yesterday: tumor in the cheek a little more inflamed. Ordered a blister over the tumor: continued wine-whey: add beef-tea. 5th. Patient feels much better, and sits up in bed: pulse 92 and has more force: tongue moist and moderately furred. There is considerable

swelling at the upper part of the neck on the right side and behind the veins of the jaw, with some tenderness: the tumor of the cheek continues hard and tender, but less painful than before the application of the blister. 7th. Swelling and tenderness of the neck somewhat diminished: fluctuation is perceptible in the tumor of the cheek: I opened it with a lancet, and it gave issue to a drachm or more of dark-colored purulent matter. Some oozing of blood took place after the escape of the matter: I arrested it by introducing within the lips of the wound a pencil of argent. nitrat. Continue wine-whey and beef-tea.

8th. Found the patient sleeping with his face covered with profuse perspiration. When I awakened him his manner was hurried and agitated, with tremor of his muscles: pulse 92 and of moderate force: tongue moist, but furred. The nurse stated that the patient had been delirious during the night, and that he had vomited after taking wine-whey about an hour before my visit. 9th. Last night the patient appeared to be sinking. The house-surgeon, Dr. Crane, administered brandy and arrow-root, after which the patient rallied somewhat. His condition this morning was as follows: Pulse 120: skin dry and hot: tongue moist and covered with a white fur: manner wild, hurried and anxious: no suppuration in the cheek: swelling and tenderness there and in the neck diminished. Continue brandy and arrow-root, wine-whey and beef-tea. 10th. Patient died. 11th. Autopsy. The right internal jugular vein was thickened in its coats and adherent to the surrounding parts: when it was opened, it was found to be distended with purulent matter and shreds of fibrin. The inflammation of the vein extended from the base of the cranium down to the space just above its junction with the subclavian vein, where its cavity was entirely obliterated by adhesion of its opposite sides. No traces of inflammation were detected in any of the veins below. On laying open the congeries of veins constituting the tumor of the cheek, it was found to contain soft coagulated blood, but no pus. Four small white calculous concretions, or phlebolites, of a globular form, were found in it: they varied in size from the volume of half a pea to that of a large pin's head. On the left hemisphere of the cerebrum there was extensive effusion of concrete purulent matter between the arachnoid and the pia mater, along the course of the veins running over the anfractuosities, and, in some places, extending between the convolutions. There was less extensive effusion of a similar character on the right hemisphere. A similar effusion was also observed on both surfaces of the cerebellum, and at the base of the cranium, between the arachnoid and the dura mater. A small portion of fibrin was also found in the right lateral sinus near its termination. No marks of inflammation or of suppuration were found in his lungs, liver or kidneys, or any of the articular cavities. The ligature had not come away from the artery during life; but it had become detached in laying out the corpse. I found the artery entirely divided, and a pretty firm clot on each side of the division, obliterating nearly an inch of each portion of the vessel.

The result of this case was entirely unexpected and unusual. I am not aware that there is any case on record, in which the ligature of a large artery has been followed by inflammation of a corresponding vein, when the vein itself was not disturbed during the operation. In the present case, the sheath of the vessels was opened over the carotid artery, and the internal jugular vein was not exposed nor disturbed in any of its relations.

The existence of phlebolites is also an event of very rare occurrence, and I have never had an opportunity of observing them in any other case.

Case II. Calculus in the urethra, occasioning retention of urine.

A son of David Connolly, four years of age, was attacked, on the 14th December, 1844, with difficulty in voiding his urine: on the 15th, he had entire retention. On the evening of that day, he was taken to the N. Y. Hospital, and Dr. Cook, the house-surgeon, introduced a catheter and drew off a pint of urine. In passing the catheter, he encountered a slight obstruction in the urethra, but it readily yielded. On the following day, Dec. 16th, there was again entire inability to evacuate the bladder, and the patient was again taken to the hospital. I passed a silver catheter along the urethra, and at the distance of about three inches from the orifice, I felt an obstruction. I could feel with my thumb and finger that there was a foreign body in the urethra. I pressed it forward as far as the fossa navicularis, but could not get it through the meatus. I bent a silver probe into the form of a hook and passed it over the stone, and then drew it towards the orifice, but the meatus would not yield sufficiently to allow its passage. I then dilated the orifice with a probe-pointed bistoury, after which I readily extracted the calculus. Immediately afterward the patient was enabled to pass his urine freely.

The calculus was of a white color, of a flattened oval form, smooth on its surface, and three-eighths of an inch in length and three-sixteenths of an inch in breadth. It weighed two grains.

Case III. Calculus firmly impacted in the urethra. Urethrotomy.

George Lyons, a boy 12 years of age, was admitted into the New York Hospital, on the evening of the 11th January, 1845. About six weeks before, a small calculus had been extracted from his urethra, after the division of the meatus by Dr. Colville. From that time, he had suffered from the usual symptoms which indicate stone in the bladder. On the day before his admission into the hospital, he had been conscious of the existence of some obstruction in the urethra, and his urine had flowed with great difficulty and in very small quantity. Soon after his admission, an anodyne was administered, after which his urine escaped with somewhat less difficulty. I found him suffering considerable pain, and I could distinctly feel a hard body in the urethra, just behind the scrotum. I put the patient into a warm bath, and then introduced a large catheter down to the calculus and held it there some minutes, and on withdrawing it, I directed the patient to make an effort to pass his urine; some urine escaped, but the calculus remained fixed in the same situation. I then had the patient placed upon a table, and secured his hands and feet with bandages, after which I passed a silver catheter through the urethra down to the calculus, cut down upon the point of the instrument, and extracted the stone. It was of a yellowish brown color, and of the form of half a cube, with its edges and angles rounded off; its broad surfaces were rough and its edges smooth. Its diagonals were about half an inch in length. Its weight was twelve grains. To prevent infiltration of urine into the cellular tissue of the scrotum, I passed a large silver catheter into the bladder and allowed it to remain there.

The presence of the catheter occasioned some irritation, and it was followed by œdema of the scrotum. On the fourth day the instrument was removed. After that time the urine passed chiefly through the natural canal, but a portion of it came through the wound. On the 8th February the patient was discharged, cured; the wound having healed, and the urine passing freely through its natural channel.

Case IV. Retention of urine, occasioned by a calculus in the urethra. On the 19th March, 1845, I was requested by Dr. Fitch to see an elderly gentleman who had been troubled for some time with difficulty in passing his urine, and who had entire retention at the time when I was called to see him. I passed a silver catheter down to the membranous part of the urethra, where I encountered a calculus which resisted its further progress. While I was sounding him the stone slipped back into the bladder, and the catheter, no longer encountering any resistance, passed readily onward to the same cavity, and evacuated a large quantity of urine. A few weeks afterward, the patient, while voiding his urine, passed with it a calculus of considerable size.

Case 5th. Stone in the bladder, removed by an operation. Recurrence of symptoms after an interval of four months. Second operation. June 29th, 1844, I performed the operation of lithotomy on Michael Turley, a boy of the age of four years and five months. About three years before, he had begun to complain of pain in passing his urine, and had continued to do so until the time of the operation. On sounding him, I could feel the stone with sufficient distinctness, but the sound which was elicited by bringing the instrument in contact with the stone was quite obscure. I performed the bilateral operation with my double prostatotome, an instrument which is described in the New York Journal of Medicine, &c., for March, 1844. In consequence of the struggles of the patient, I had some difficulty in passing the rod of the instrument into the urethra through the incision in the perineum. On seizing the stone with the forceps, and attempting to extract it, it was broken down, being very friable in its structure. I removed most of the fragments with the forceps and scoop, but some small ones remained, closely adherent to the mucous membrane of the bladder. I directed ten drops of tinct. opii in two doses. Two or three hours after, I called again and injected the bladder freely with a stream of warm water: several small fragments of stone came away. I introduced my finger into the bladder and made a careful examination, but could detect no roughness upon its lining membrane. I saw the patient again in the evening: he complained of no pain, but was somewhat feverish; his pulse was 140; his urine dribbled away constantly through the wound. 30th, 9 a. m. Patient appears very comfortable; no pain; febrile excitement diminished; no movement of the bowels since the operation; ordered a teaspoonful of magnes. sulphat. 7 P. M. Medicine has operated too freely: ordered compound chalk mixture. July 1st. Pulse reduced to 108. Patient is in good spirits, talking and singing. Urine continues to dribble away through the wound. 2d. Found patient walking about the room amusing himself; pulse 100; Directed him to remain in bed. Since yesterday afternoon the dribbling of urine has ceased: he holds it for a time in his bladder, and then passes it with a gush through the wound into the perineum. On the 4th, a portion of the urine began to pass through the natural channel. 8th. Urine comes chiefly through the natural passage, but since yesterday he has screamed and pulled the penis each time that he has made water, as before the operation. 10th. Urine passes entirely through natural channel, and with little pain. Wound much contracted: granulations healthy; patient walks about. August 2d. Patient appears to enjoy good health; passes his urine in a good stream and without pain through the day, but wets his bed at night. The wound is contracted to a mere point, where there is some induration and soreness, and from which there is an occasional pretty free discharge of purulent matter.

Sept. 19th. I visited the patient after an absence of six weeks: the wound has been healed for some time, and the patient is in good health, except that he has a mucous discharge from the bladder.

March, 1845. I was called to see the patient again, and was informed that about the beginning of November he began to suffer again from symptoms similar to those which he had prior to the operation. I sounded him and detected a stone.

April 16th, 1845, 11 A.M. I operated in the same manner as before, except that on withdrawing the staff, I introduced through the perineum, into the urethra, a grooved conductor with a long beak, along which I passed the rod of the prostatotome, and completed the operation without any difficulty. I extracted two calculi, after which I carefully examined the interior of the bladder with my finger, and could not detect any others. The patient struggled violently during the operation, and seemed to be in great pain when it was completed. Ordered tinct. Opii gtt. x. 6 P.M. Found the patient in bed, perfectly composed and free from pain; he had not slept. There had been a pretty free discharge of blood with the urine, which had dribbled through the wound; no blood was flowing at the time of my visit; pulse 130, of moderate firmness; skin warm and moist; countenance good.

17th. Patient has passed a comfortable night, and appears well this morning; no pain; skin natural; pulse 104; tongue moist and nearly clean; urine passes chiefly through the wound, but partly through the urethra.

18th. Free from pain; pulse 94; bowels open; urine since last evening has passed entirely through the penis, and by voluntary effort; patient feels so well that he walked across the room this morning to look out of the window.

19th. Continued remarkably well through the day yesterday; he sat by the window a considerable time, and may have taken cold; he slept during the evening, but at midnight became restless and uneasy, and continued so throughout the remainder of the night; pulse this morning 125; tongue moist and but slightly coated; no heat of skin; urine passes entirely through the penis, and in a full stream, but he complains of some pain in passing it. Ordered Spt. Minderer., a teaspoonful every two hours.

May 2d. Since the last report the patient has been improving; he is now dressed and playing about the room. The wound is very much contracted.

May 31st. The patient appears to enjoy perfect health; he passes his urine in a full stream, and without pain or inconvenience; no urine has flowed through the wound since the day after the operation; the wound is entirely healed.

The fragments which were removed in the above case, at the first operation, were of a reddish brown color, probably from mixture with blood. The weight of those which were collected was 28 grains. They were analysed by Dr. Draper, and were found to consist of phosphate of lime. The calculi which were removed at the second operation, were of a white color, and were also found to be composed of phosphate of lime. One of them weighed 92 grains; the other 40 grains. The smaller one was sawn open, and there was found within it a nucleus of irregular form, which appeared to be a fragment of stone.

Case VI. Laryngotomy in Diphtheritic Croup. On the 9th of Feb-

ruary, 1845, I was requested by Dr. Gunn to see a little girl three years of age, who had been suffering for the last four days from a croupy cough, with considerable dyspnœa. The attack had commenced with sore throat. The case had been actively treated with emetics, leeching, blistering, calomel and ipecac, &c., but the symptoms had been steadily growing worse. A child of the same parents had died three years before from a similar affection. When I saw the child, I examined the fauces, and found the tonsils, uvula and back of the pharynx considerably swollen, and covered with an ash-colored exudation. As the disease had continued so long in spite of active and judicious treatment, and the prognosis was extremely unfavorable, we determined to make an artificial opening into the trachea. I accordingly made an incision in the median line a little above the sternum, but found the space between the sternum and the isthmus of the thyroid body exceedingly small, and the right vena innominata arose above the sterno-clavicular articulation, so as to render it unsafe to prosecute the dissection in that region. I therefore extended the incision upward, and exposed the crico-thyroid membrane, through which I made an opening, which I enlarged by snipping off a small portion of the thyroid cartilage. The operation was tedious in consequence of the delay which was rendered necessary by the oozing of blood. After it was completed, the air entered the larynx freely through the artificial opening, but still the breathing did not seem to be essentially relieved. The child died about twelve hours after the operation. Permission to examine the body could not be obtained.

Case 7th. Imperforate Rectum. On the 3d of March, 1844, I was consulted by Dr. Gunn in the case of a young female infant, which had been born about 48 hours before I saw her. There had been no evacuation from the bowels; this had not excited much uneasiness during the first 24 hours, but at the end of that time the child had begun to vomit a grass-green fluid, and the vomiting had been frequently repeated. The child seemed much prostrated at the time of my visit. Attempts had been made to introduce instruments into the rectum, but without success. The anus was naturally formed, but on passing my little finger through it, I found an obstruction in the intestine at about one-third of an inch from the surface; at this point there was entire occlusion of the gut, and no fluctuation could be felt beyond. I introduced a trocar through a canula in the direction of the rectum, about half an inch, and on withdrawing it, found its point stained with meconium. I plunged the instrument deeper in the same direction, and as I withdrew it, several ounces of thick tarry meconium escaped. I injected an enema through the canula, and a further evacuation of meconium followed; only a drop or two of blood escaped, and the child's countenance seemed brighter than before the operation. On the following day, I was disappointed in finding that there was no further improvement; there had been no additional evacuation, although another enema had been administered; about one ounce of blood had escaped at the time of the injection. Since the operation, the child had vomited a number of times, the same kind of green fluid as before, and seemed still more prostrated. It died soon after my visit. If the operation had been performed at an earlier period, there is reason to believe that the fatal result might have been prevented.

ART. V.—*A few remarks upon the use of Mechanical Appliances for the confinement of the body or limbs of the Insane.* By PLINY EARLE, M.D. Physician to the Bloomingdale Asylum for the Insane.

THE New York Journal of Medicine and the Collateral Sciences for May, 1845, contains a notice of the Twenty-fourth Annual Report of the Bloomingdale Asylum, in which extracts are given upon the subject of Mechanical restraints from both that report and the last report by Dr. Ray, of the Maine State Asylum. These extracts are placed in juxtaposition, for the purpose of showing a difference of opinion between the authors in regard to the utility of restraining apparatus in cases marked by a suicidal propensity. Being responsible for the sentiments advanced in the former of the two reports mentioned, and having had an opportunity of learning the views of Dr. Ray upon most of the specialities included under the general treatment of insanity, I believe myself justified in saying that, so far as relates to the use of restraints, there is no difference of opinion between us. The apparent discrepancy exhibited in the notice alluded to, arises from a comparison, or rather a contrast, of two extracts materially dissimilar in their nature. The quotation from the report by Dr. Ray, treats of the subject of *restraints in general*, while that from the report of the Bloomingdale Asylum has reference to their use *in suicidal cases alone*. This will be perceived by any one who, sufficiently interested in the subject, will take the trouble to read them. At the same time, by comparing the remarks of Dr. Ray with the extract from the report of the Bloomingdale Asylum which is introduced immediately after them, page 392, the coincidence of opinion of the two writers upon the general subject of restraints will be sufficiently evident.

The error, undoubtedly inadvertent, which is here pointed out, would not, under any circumstances, be of sufficient importance to require an exposition of this kind. But at the present time, while the institutions for the insane have scarcely yet passed through the revolution which absolved them from the horrors of the old *régime*, while they are still in the state of transition from the cheerlessness and wretchedness of a prison to the comforts of a home, it is a matter of no trifling importance, that unanimity of opinion and similarity of action should prevail among those who are directly engaged or interested in the management of them.

Especially is it desirable, that they should be preserved from arranging themselves as hostile partizans, in reference to any question relating to the treatment of the insane, and thus incur the liability of adopting ultra measures, adverse to the true interests of those to whose welfare they profess to devote themselves.

The doctrine of the propriety of the total, unqualified, unconditional abolition of mechanical restraints in establishments for the insane, was broached a few years since in England, and soon afterwards practically adopted at the Lincoln Asylum, under the superintendence of Mr. Hill. The precedent has since been followed in the institutions at Hanwell, Gloucester, Lancaster, and perhaps some others. This principle of action has given rise to much discussion which, it is to be feared, has not, in every instance, been conducted with that calmness of spirit, exemption from prejudice, and moderation of language, which are essential to both professional etiquette and the attainment of truth.

Hitherto, no essential disparity of opinion upon the subject has appeared among the physicians connected with similar institutions in this country.

At the meeting of the Association of Medical Superintendents of Institutions in the United States, held in Philadelphia, in October last, a resolution was introduced and unanimously adopted, declaring the sentiment of that meeting to be, that the entire disuse of mechanical restraints is incompatible with the true interests of the insane.

Yet, while thus expressing, in a negative manner, their decided belief of the occasional utility of appliances for bodily restraints, they would, undoubtedly, not only assent to, but contend for the following rules of action, viz: that in deciding upon the application of restraints, in any given case, the welfare of the patient alone is to be consulted;—that they should never be applied unless directed by the medical officer, and that they be removed as soon as the object be attained for which they are brought into service.

There is reason to believe that all physicians charged with the care of Asylums have learned that the extent to which mechanical restraints are necessary, is dependent, in a very great degree, upon the character of the attendants upon the patients. If the attendant be ignorant and passionate, the excitement, turbulence, outrageous conduct, and consequent call for bodily confinement, will, on the principle of mental or moral action and reaction, be far greater, than if he be intelligent, and have perfect command over his feelings and passions. The ills of the insane are sufficiently great without subjecting them to punishment for the faults of others.

Experience, that "best of schoolmasters," will, as it becomes more and more enlarged, enable every one directly concerned in the custody of the insane, to devise a greater and still greater number of methods of avoiding the painful alternative of recourse to restraints, and, at the same time, secure a greater degree of tranquillity in the house, and a larger amount of comfort to the patients.

Since the 20th of November last, a period of six months, no mechanical restraint of any kind whatever has, with but a single exception, been placed upon the body or limbs of any patient in the male department of Bloomingdale Asylum.

The exception mentioned was in the case of a patient who, being ill, and perfectly delirious, continually took off his clothing and exposed himself to the cold. His hands were confined with the camisole three days and nights. Among the patients in this department during the time in question, there have been several laboring under a suicidal propensity. Although it has not been thought best to use any mechanical restraints with them, yet there are, unquestionably, cases of this description in which confinement of the limbs is the only certain security against self-destruction; and this, indeed, is not absolutely so. Fortunately, such cases are rare.

In the female department, it has occasionally been found necessary to resort to means for the confinement of the hands. For this purpose, however, the camisole (long sleeves, tied behind, the patient's arms being folded on the breast) has almost entirely superseded the muffs and wristbands.

June 28th, 1845.

ART. VI.—*Cases Illustrative of Diseases of the Cæcum and its Appendix.*

THE cæcum has manifestly an individuality both of function and disease—having offices to perform in some respects quite peculiar to itself, while it is subject to frequent derangements and fatal diseases, in which no other portion of the digestive apparatus is implicated.

While the former have received far less consideration than their relative importance would seem to demand, the latter can scarcely be said to have a place in our systematic practical works.

A Monograph by Dr. John Burne, an article in Copland's Dictonary of Practical Medicine, and the cases which are detailed in Dupuytren's Chemical Lectures, embrace nearly all that has fallen under my notice upon this interesting class of affections; with the exception of single cases which occasionally appear scattered through our periodicals.

If we take but a very superficial view of this organ, its situation and capacity, its attachment to the parietes of the abdomen, so confining it that its relative position admits of no change, and the circumstance that its contents are moved forward in opposition to the laws of gravitation, it must be evident that the alimentary substances were designed to remain here longer than in any other portion of the alimentary canal.

These considerations have very naturally suggested the idea that the cæcum constitutes a kind of second stomach.

Again, if we examine a little more carefully into its organization, we find the cæcum liberally furnished with large follicular glands, evidently designed for the abundant secretion of important fluids, while the entire organ, with its appendix, is more richly supplied with arterial blood than any other portion of the intestinal canal. It appears from the experiments of Tiedemann and Gmelen, that these follicular glands "secrete an acid, albuminous and solvent fluid, which mixes with, and promotes the digestion of those portions of aliments which have withstood the action of the stomach and small intestines, or have been insufficiently changed by them." We may also remark that the contents of the alimentary canal first acquire their peculiar fecal odor in the cæcum. This, according to the researches of the same physiologists, depends upon an oily volatile substance secreted by the mucous follicles. And we think it highly probable that the appendix performs an important part of this work, since, when examined in its natural condition, it is generally found to contain a portion of this material. Indeed, we think it would be difficult to assign a more probable function to this organ; inasmuch as its formation is such as to preclude the idea of the alimentary substances entering it, while the large supply of blood sent to it must plainly bespeak for it a more important office than merely affording a convenient retreat for such unlucky cherry stones and the like, as may chance to escape from their destined course.

It farther appears probable from the experiments of Tiedemann and Gmelen, that the cæcum performs the additional function of secreting "chiefly from its numerous follicles, an unctuous fluid for the protection of the surfaces of the large bowels from the irritating effects of the fecal matters passing along them," and that the constituents both of this and of the other secretions poured out from its surface, consist of elements which require to be eliminated from the blood; so that, in addition to its other functions, it is also a depurating organ.

We may reasonably infer from the foregoing considerations that the cæcum is an important organ, whose functions can neither be suspended nor suffer material derangement, without serious detriment to the animal economy.

My own observations lead me to apprehend that such disturbances occur much more frequently than it has generally been supposed. Such suspension or modified function may result from various causes, as defective nervous stimuli, the unnatural stimulus of crude undigested food, unhealthy secretions of the prima via, or sympathetic relation with some other organ, in a pathological condition. The following case will perhaps sufficiently illustrate the most simple form of such derangement:

Case I. Mrs. B., now thirty-seven years of age, experienced slight inconvenience early in the summer of 1828, from dyspeptic symptoms, which readily subsided under a regulated diet. From early childhood to that period, she had never suffered from any serious indisposition. She soon lost her ruddy complexion, her usual elasticity and strength began to decline, her lips and tongue became pale, and a general disinclination to physical and mental exertion soon followed. But the more remarkable circumstances manifested in this case, are a slight uneasiness seldom amounting to pain, frequently felt in the region of the cæcum, and ascending colon, attended with an evolution of gas which escapes entirely without odor, while the fecal matters, which are quite natural in appearance, with the exception of perhaps being slightly softer than common, are generally entirely wanting in fecal odor.

This state of things has continued with but short intervals of interruption for more than sixteen years. During this period she has had a good appetite, with no unnatural thirst, and daily motions of the bowels without the use of medicine. The uterine functions have been uniformly healthy. She has borne four children during the time. Menstruation has never been interrupted except during pregnancy and nursing. It has never varied materially in time, quantity, or quality, and has never been attended with pain or any appreciable constitutional disturbance. She has never suffered from leucorrhœa, or indeed from any other indisposition than the above described.

Several intelligent members of the profession have been consulted in this case, and the functions of every organ in the body have been faithfully interrogated and carefully watched, and yet no one has been able to form a satisfactory opinion as to the cause of these peculiar phenomena.

The observations of Dr. Copland upon the functional derangements of the cæcum, seem to throw some light upon this and similar cases, and make it appear at least probable that these peculiarities depend on such derangement. If the views which are entertained in regard to the functions of the cæcum be correct, there will be no difficulty in coming to such conclusion.

I might here introduce several other cases which would seem to confirm the correctness of the views above presented, but perhaps this may be sufficient to direct the attention of other and more competent inquirers to its investigation.

I will however remark, that I had an opportunity about a year since, of making an examination of a case in which the leading symptoms had for a long time been similar to the one already described. In this instance,

death was occasioned by the sudden supervention of acute gastro-enteritis. The lower part of the ilium, the cæcum, and a small part of the ascending colon were found very much hypertrophied, the parietes of the cæcum measuring over two lines in thickness, while the cavity of the appendix was so nearly obliterated as barely to allow the introduction of a small probe.

Dr. Copland remarks, that "when the vital energies are weakened and the alimentary canal debilitated, the cæcum often betrays greater disorder than any other part of the digestive system. Its situation and functions will account for the frequency and importance of its diseases. In some cases, the irritation produced by morbid or accumulated matters in it are slight, and readily productive of sufficient reaction of its muscular coats to propel them along the colon. In other instances, the efforts made to accomplish this end, owing to the obstructions occasioned by the lodgment of flatus about the right flexure of the colon, or by irregular spasmodic contractions of this bowel, are ineffectual, and give rise to colicky pains. If the interruption is removed, disorder soon subsides; but if it continues for any considerable time, the more violent forms of colic or ileus supervene."

The two following cases, while they corroborate the foregoing remarks, have some points of peculiar interest as illustrating the fact, that the bowels may be freely evacuated with active cathartic medicine, while substances remain impacted in the cæcum undisturbed.

Case II. On the 7th Aug., 1835, I visited Sauger Brockelbank—a lad thirteen years old, who had complained for two or three days with colicky pains. He had taken salts, castor oil and cathartic pills, which had operated well, but without relieving the pain.

I learned that four days previous to this time, he had eaten freely of choke cherries (prunus virginiana). On examining the abdomen, he seized my hand as it approached the right iliac region, exclaiming that it was very sore. Careful examination discovered a distinct circumscribed fulness and hardness over the cæcum. He complained of thirst and head-ache; pulse eighty-four, and rather hard.

Pres. v. s. ℥ xv., calomel ten grs. to follow in three hours, with castor oil. Warm fomentations to the bowels.

8th. His bowels have been freely moved several times. Soreness over the cæcum still continues; pulse ninety-two, v. s. repeated; calomel four grs., with one-eighth gr. morphine to be repeated every six hours. Blister to the seat of the soreness.

9th. Bowels have not been moved since yesterday; pulse ninety-two; tongue slightly coated with a white creamy covering; pres. calomel five grs., to be followed with castor oil in four hours. Blister to be dressed with warm poultice of slippery elm.

10th. Soreness rather increased; bowels moved, but slightly; pulse ninety-four, small and quick; pres. calomel and Dover's powder, each three grs. every four hours, and fomentations to the bowels.

11th. Has had two slight motions of the bowels—without fecal odor. Calomel and Dover's powders continued; blister renewed and to be dressed with slippery elm poultice.

Evening. His bowels have been moved several times during the day; no fecal odor; complains of thirst, tongue heavily coated but not dark; five grs. of Dover's powder every four hours.

12th. Relieved from pain by Dover's powder, but not otherwise improved; calomel and Dover's powders every four hours, blister renewed.

13th. Tongue more thickly coated; pulse ninety-six, small and quick; pres. cal. five grs., to be followed in three hours with salts and senna, and in three hours the following enema to be administered:

R. castor oil ℥ ij., spts. terebinth ℥ i., warm water one pint.

Evening. The bowels have moved freely several times during the day. The evacuations contained what the mother termed "a handful of cherry stones, which had remained so long that they smelt very bad."

From this time the soreness began to subside, and his recovery was rapid and uninterrupted.

Can there be any doubt that in this case, the cherry stones were lodged in the cæcum during the nine days which intervened between the time of eating and discharging them?

Case III.—At 1 A. M., August 17, 1840, I was called to R. B. aged 20. He complained of excruciating pain in the abdomen, with nausea, retching, anxious countenance, features much contracted, pulse 110, quick, small and tense; the whole abdomen extremely painful to the touch. He had been troubled for several days with diarrhœa, attended with occasional griping pains. For the last twenty-four hours, he had felt a dull aching pain in the bowels, which was increased while in the erect posture, and greatly aggravated by any slight jar, as in walking. But the severe pain came on suddenly on rising from his bed just before I was called, at which time he experienced a smart chill. I took from the arm thirty-six ounces of blood, gave him fifteen grains of calomel combined with one-half grain of morphine, and hot fomentations were applied to the bowels. 6 o'clock—pain and nausea slightly relieved, but the soreness of the bowels continued. Bleeding repeated to twenty ounces, which occasioned fainting: calomel ten grs. and Morphine one-half gr.: fomentations continued, and a mixture of calc. magnesia ℥ ij, aromat. syrup of rhubarb, ℥ i; to be given in three hours.

2 P. M., pulse 127. Soft and compressible pain much relieved. By means of a flexible tube passed into the colon, the following enema was administered:—R. castor oil, ℥ ij; spts. turpentine, ℥ i; warm water, three pints. This passed off in the course of three hours, with some fecal matter.

9 P. M., pain much diminished and entirely confined to the right iliac region, where a distinct circumscribed fulness and hardness was perceptible. Calomel, three grs.; morphine, one-fourth gr.; to be given every four hours.

18th. Morning. Pain, soreness and swelling over the cæcum, considerably increased; pulse 130, small and quick. An injection of warm water and castor oil produced a small fœcal evacuation, without odor. Calomel and morphine continued; about four oz. of blood was taken from the region of the cæcum by cupping and fomentations to the seat of pain.

2 P. M. Pain somewhat relieved; blister applied to the seat of pain.

9. Evening, pain much relieved. Injection repeated, but with slight effect—calomel 3 grs., Dov. powder 4 grs. to be given every four hours. Blister to be dressed with slippery elm poultice.

19th. Morning. Rested well: free from pain, pulse 120, soft and compressible. Tongue slightly covered with moist white fur. A mix-

ture of castor oil, ℥i., and an equal quantity of aromatic syrup of rhubarb, to be given directly.

2 P. M. Has had rather a scanty evacuation, tinged with bile, with slight fæcal odor; feels much relieved.

8 o'clock. Evening. Pulse 110, soft and compressible; bowels have been freely evacuated; fæcal odor, strongly marked. 5 grs. Dov. powders to be given for the night.

20th. Morning. Has had a tolerable night's rest; pulse 110; bowels acted freely; complains of soreness, and some deep seated pains in the region of the cæcum. Blister dressed with mercurial ointment.

Evening. Pulse 100; swelling and soreness still continues; camphor and opium pill to be given at bed time. Mercurial dressing continued.

21st. Still complains of dull, deep-seated pain; pulse 100; camphor and opium pill; mercurial dressings continued.

Evening. Pain continues; pulse more full and hard; tongue more coated, with edges very red; colon distended with ℥iv. castor oil, in five pts. warm water. This brought away an apple seed, with some flakes of hardened fæcal matter which appeared as if broken from a hard mass. Pres. Dov. powder and cal. *aa* 5 grs. to be repeated every four hours.

22d. Morning. Has had a quiet night; pulse 100; tongue looks better; swelling and soreness much relieved; skin has been in a moist state during most of the night. Has had a large evacuation of offensive fæcal matter, with several hardened lumps in which were found a number of whole, unripe blackberries. On inquiry, no fruit of the kind had been taken since the Saturday, a week before his illness.

Evening. Has had several evacuations during the day, with fragments of hardened fæcal matter, containing numerous seeds of blackberry.

From this time he began gradually to recover, although it was several weeks before the soreness and swelling had so far subsided as to allow of his returning to business.

He has since had several slight attacks of pain and soreness in the region of the cæcum from error in diet, which have readily yielded to prompt treatment.

We may remark that in both of these cases, during the time in which foreign substances remained impacted in the cæcum, although the bowels had been repeatedly freely acted upon by medicine, there was almost an entire absence of fæcal odor in the alvine discharges. I have noticed the same circumstance in several other similar cases, and recognized the reappearance of the odor, as one of the earliest symptoms of anything like permanent relief.

Case IV. On the evening of the 29th of August, 1835, I visited Miss ———, a young lady, 16 years of age. She had suffered from slight headache, for two or three days. Four days previous, while walking in the garden, she had taken several unripe plums, since which time she has had no motion of the bowels. I attributed her headache to this circumstance, and directed castor oil and aromatic syrup of rhubarb, of each one ounce.

30th. She has had no motion of the bowels: headache continues; pres. R. Calc. magnesia ʒi; spts. ammon. aromat., ʒi; mint water, ℥i; to be taken directly, and repeated in three hours if required.

Evening. Medicine has had no effect, and the following was ordered: calomel 8 grs., com. ext. colocynth 12 grs., and should this have no effect, it may be repeated in six hours.

31st. Her medicine has had no effect; complains of pain in the bowels. On examination, I discovered tenderness and slight fullness in the right iliac fossa. V. S. ℥xvi. fomentations to the abdomen, and an enema to be administered directly, and should there be no motion of the bowels in three hours, the following mixture to be given: castor oil, ℥i, aromatic syrup of rhubarb, ℥ss, with the addition of two drops of croton oil.

From this time to the third of September, being ten days from the time she had taken the plums, although all ordinary means had been resorted to, such as bleeding, blistering, warm baths, enemas and active cathartics, no passage of the bowels had been effected.

At the request of Dr. Bristol, who was now called in consultation, the croton oil, warm bath and enema were repeated, but all with no effect.

Sept. 4th. The soreness and pain have increased during the night: tongue loaded with a heavy white coat; pulse 88, quick and small; calomel and Dover's powders each three grs. every three hours. About noon she experienced a smart chill, which was followed by severe pain and exquisite tenderness, which spread rapidly over the whole abdomen.

Drs. Cheney and Bristol were now called in consultation. The stomach had become so irritable as to reject everything taken into it, and the rectum so sensitive, that enemas by an ordinary syringe could not be retained, and it was proposed to distend the colon freely by means of a long flexible tube. In attempting to pass this into the colon, I met with a difficulty which I had frequently encountered in similar attempts.

When the tube reaches the angle which the intestine makes, in passing over the psoas muscle and common iliac artery, it meets the side of the gut, nearly at a right angle, and after forcing the intestine before it as far as its loose folds at this point will allow, the tube is doubled upon itself, some two or three inches from its point, and broken. That this is the nature of the difficulty, which frequently occurs in passing a flexible tube into the colon, I have satisfied myself by laying open the abdomen of the dead subject, and introducing it with the intestine exposed to view. Indeed, I think it requires especial good luck, as well as dexterous manœuvering, to be able in all cases to pass an elastic gum tube into the colon, although, from the representations of Mr. O'Beirn and some others, it seems quite otherwise.

In order to satisfy myself whether there was any unnatural obstruction in this case, I took a common rectum sound, and passed it into the colon without difficulty. It now occurred to me that a flexible metallic tube, made in shape similar to the sound, might be introduced without trouble. I accordingly prepared one the size of a large catheter, with an egg-shaped bulb upon the end, pierced with several holes like the tube of the womb-syringe—passed it into the colon, attached it to the tube of Reed's double valve pump, and gradually distended the colon with a mixture of castor oil ℥iv., spts. turpentine ℥i. and five pts. warm water. This soon passed off, and with it a large quantity of dark fæcal matter, containing several balls of black, hardened fæcal matter, about the size and in appearance not unlike the black walnut. The evacuations were attended

with alarming fainting, but were soon followed by relief from all pain and threatening symptoms.

The three preceding cases, I apprehend, furnish us with examples of the most common causes of acute inflammation of the cæcum, viz: foreign indigestible substances, or hardened fæcal matter, impacted in the caput coli.

Mr. John Burne, Physician to the Westminster Hospital, in an article published in the 20th vol. of the Medico-Chirurgical Transactions, has given a history of eight very interesting cases of this disease He tells us he has seen not less than twenty cases, in all of which he has not seen a single example of idiopathic inflammation of the cæcum from the ordinary general causes—exposure to the vicissitudes of weather, &c. "But every instance has been symptomatic of some mechanical exciting cause, as the lodgment of undigested food, of fruit stones or of concretions which the structure of the cæcum and appendix favors; and hence the peculiar features of the disease." It not unfrequently happens, that after an attack of acute inflammation of the cæcum, induced by some foreign substance impacted in its cavity, the natural powers of the organ are but slowly regained; hence it is subject to renewed attacks from any trifling error in diet, or slight exposure to cold. Such cases often become exceedingly troublesome and difficult to manage. The following is an instance of the liability to a recurrence of this kind:

Case V. On the evening of June 13, 1843, Miss E. J. W., aged 17, was seized with pain in the bowels, which was attributed to her having eaten freely of unripe gooseberries during the preceding afternoon. I saw her early on the morning of the 14th. Her countenance was indicative of severe suffering. She had taken a full dose of Gregory's Mixture (magnesia, rhubarb and ginger), which was rejected. The pain was referred to the umbilical region; pulse 88, full and sharp; pres. V. S. ℥xx. calomel gr. 10. Morphine gr. 1-4. Hot fomentations to the abdomen.

I saw her again in three hours. Her medicine had been retained, although there had been some retching. Pulse 84, pain somewhat abated; pres. cal. 5 grs. Morph. 1-3 gr. Fomentations continued.

3 o'clock, P. M. She complains much less of pain. Skin moist; tongue slightly coated with moist white fur; pulse 84, soft; pres. half a Seidlitz powder, to be repeated every hour, in hot water. Fomentations to be continued.

9 P. M. Medicine has been retained, but there has been no motion of the bowels. Slight pain still complained of in the umbilical region. Abdomen soft; moderate pressure occasions no pain except over the cæcum, where there is an evident fulness, quite tender to the touch. Pres. an enema of castor oil and warm water, to be administered directly. Cal. and Dov. powd. each grs. iii., to be given every four hours. Fomentations to be continued.

15th. She has passed a comfortable night; had a slight motion of the bowels soon after the enema, with some dark fæcal matter. The pain has entirely receded to the right iliac fossa, where it remains constant but not severe. Soreness not diminished; tongue more thickly coated, but white and moist. Pres. blister over the cæcum. Half a Seidlitz powder every hour and an enema to be repeated every third hour, until free evacuations shall be procured.

Evening. She has had several small evacuations of a greenish fluid,

with no solid fæcal matter. Pres. 5 grs. Dov. Powd., to be given every three hours. Simple dressing to the blister, over which is to be laid a warm bran poultice.

16th. She has had a quiet night, free from pain. Skin moist. Pres. The following enema to be administered directly: Castor oil ℥ij., spirits turpentine ℥ij., warm water two pints.

2 P. M. In the course of the forenoon, she had several evacuations of dark fæcal matter in which there were several hard masses containing portions of several partially digested gooseberries. Pres. Half a Seidlitz powder every two hours.

Evening. She has had several evacutions of greenish fæcal matter during the afternoon. Pres. 5 grs. Dov. Powder.

17th. Convalescent.

On the 8th of June, 1844, a similar attack occurred after eating unripe, or but partially ripened cherries. Under a similar course of treatment she got relief on the 4th day after the attack, but the soreness and tumefaction subsided much more slowly than in the first instance.

On the 14th of Sept following she was seized in the same way—but the case proved much more obstinate than in either of the former attacks, yielding to the treatment on the 15th day after its commencement.

On the 3d of Dec. of the same year, she had a recurrence without any known cause, except a bad cold, under which she had been suffering several days. This lasted until the 21st, or eighteen days from its commencement. From this time until the following spring, she was constantly troubled with constipation of the bowels, attended with flatulence, together with more or less tenderness and pain in the cæcum and ascending colon. Her general health suffered materially until the 23d of April, 1845, when she had another attack, attended with more acute inflammatory symptoms than either of the former, involving the peritoneum to considerable extent. This occurred in three or four hours after eating boiled cabbage. By the use of an emetic most of this was thrown off from the stomach, in an undigested state, together with a quantity of green bile. The inflammation subsided, under active treatment, in the course of six days, and the bowels slowly regained their natural powers so far as to be comfortable under a carefully regulated diet, with the occasional use of tonic laxatives.

We occasionally meet with instances in which the vermiform appendix seems to be the principal seat of the primary disease. This is generally occasioned by the accidental intrusion of some small, hard substance into its cavity, which its free communication with the cæcum readily allows; while there is no way of escape but by a retrograde movement. Whether this organ has the power of expelling offending matter in this way or not, it is well known that they sometimes become impacted in this narrow tube, giving rise to irritation and inflammation, which result in perforative ulceration of its coats with most disastrous consequences.

Mr. Copland mentions having seen four cases of this description, where the appendix was primarily and chiefly affected, owing to hard substances having escaped into it. All of these cases terminated in general peritonitis and gangrene of the appendix.

It appears from his description of this affection, that in the cases which he has seen, the symptoms from the beginning were more acute than in inflammation of the cæcum itself.

Two well marked instances of this affection have fallen under my observation, one of which was occasioned by the presence of two biliary concretions lodged in the appendix. The symptoms in these cases were less urgent than in those related by him; although the sequel was the same.

Case VI. This occurred in a young man about 17 years of age, while attending school at the Canandaigua Academy. I first saw him on Tuesday, June 6, 1837. He complained of sickness at the stomach, and pain in the umbilical region. He attributed his illness to the eating of oranges on the previous evening. I gave him calomel and rhubarb, of each 10 grains in powder, and directed hot fomentations to the abdomen.

I called again in four hours. The sickness had subsided and pain somewhat abated; gave him castor oil and aromatic syrup rhubarb each 1 oz.; fomentations to be continued, and a copious enema to be administered in three hours.

7th. The bowels have been freely moved; still complains of pain about the umbilicus. On carefully examining the abdomen, I discovered tenderness on pressure deep in the lower part of the right iliac fossa; no febrile movement has manifested itself.

I applied a blister to the right ilio-inguinal region, and directed calomel and Dover's powders, each 3 grains, to be repeated every four hours.

Evening. Several times during the day he has rejected from the stomach small quantities of greenish watery fluid, which has left a slight stain upon the tongue. The blister has filled well; Dover's powder and calomel to be continued through the night.

8th. Rested well during the night; pulse 76, soft. Skin moist; thin white coat upon the tongue; not dry; no pain, but little soreness; blister looks well. I gave him ten grains of calomel to be followed in three hours, with a draught of infusion of senna and Epsom salt.

Evening. His medicine has operated several times during the day. The evacuations contain a large quantity of dark fæcal matter but without fæcal odor. He expresses himself as feeling relieved. Directed Dover's powder for the night.

9th. Had a quiet night. No pain, but some soreness in the right iliac region. Heavy white coat upon the tongue; pulse 78, soft, and yielding readily to slight pressure. Has had a small evacuation from the bowels. No fæcal odor; blister reapplied. A seidlitz powder to be given every three hours.

Evening. Bowels have been moved several times, evacuations not examined. Entirely free from pain. I spent more than an hour with him, in company with some friends, who had called on him. He left his bed and walked to his chair without assistance. Conversed freely, and desired permission to ride to his friends the next day—a distance of 10 miles—which I advised him to defer for a few days. Everything seemed quite favorable, excepting a very heavy, white, clammy coat spread entirely over his tongue. A Dover's powder was the only medicine prescribed for the night.

10th. I was called to him very early this morning, and found him in articulo mortis.

On post-mortem examination, assisted by Dr. Bristol, there was found in the pelvis about half a pint of purulent matter. The vermiform ap-

pendix presented an opening about one inch from its attachment to the cæcum, in which lay a biliary concretion about the size of a common white bean, and nearly of the same shape. On raising the appendix it separated from the cæcum, and was found in a gangrenous state through its whole extent. About half an inch above the ulcerated opening already mentioned, there was an enlargement of the appendix in which was found another concretion of about the same size and appearance. On carefully cutting open the concretions, they were found to be composed of concentric layers of dense biliary concretion around a common centre of the same material. Marks of recent inflammation were traceable to a great extent, over the peritoneum as well as the small intestines.

The most remarkable feature in this case, is the amount of organic lesion of so destructive a character, with no more urgent symptoms.

In the other instance of this description of disease to which allusion has been made, the symptoms were more nearly allied to those of strangulated hernia. The appendix was found imbedded in a mass of omentum, greatly hypertrophied, and in a state of ulceration. The cavity of the appendix was nearly obliterated by a thickened condition of its mucous membrane which had assumed a kind of firm pulpy consistence. Portions of the mucous membrane of the cæcum also presented a similar appearance.

Affections of the appendix are not generally distinguishable from those of the cæcum itself, during the life-time of the patient. We may sometimes suspect them when the seat of the affection is deep in the pelvis, as this organ is frequently found depending in this situation. This was noticed as detailed in Case VI. The soreness was deep-seated in the pelvis, which led to the suspicion that the appendix was the principal seat of the affection. Indeed the opinion was expressed before the post-mortem examination. But the situation of the appendix varies so much in different individuals, that even this sign can lead to nothing more than a mere suspicion; nevertheless, this fact is often very important in its practical results.

In the dissections which I have made, I have not discovered much uniformity either in the size or shape of the appendix, or of its place of origin, nor of the direction which it takes on leaving the cæcum. Among my dried preparations, I have one colon of common size, in which the appendix measures six and a half inches in length, and nearly half an inch in diameter; passing off nearly in a straight line from the most depending point of the caput cæci, the extremity of the appendix resting on the floor of the pelvis. I have another colon of equal size, in which the appendix is less than two inches in length, and no thicker than a crow's quill. This has its origin just at the margin of the ilio-cæcal valve, is coiled upon itself, and firmly bound to the cæcum by a fold of peritoneum. In another specimen, the appendix measures four inches in length; has its origin within half an inch of the termination of the ileon and makes a turn round this intestine, firmly embracing it. I have preserved nine preparations of the cæcum and appendix, all of which vary materially in their form and construction, so that no general description will answer to any two of them.

Dr. Burne observes, that "The conformation and situation vary much in different individuals—a fact not noticed by anatomists, but which I have found to influence the phenomena and nature of its diseases very considerably. The conformation of the appendix is generally described

as flexuous; and its situation as depending into the pelvis; but by some the situation is not noticed, further than that the appendix arises from the cæcum, and is bound down to it on the right by a fold of peritoneum, the meso-appendix; whereas the appendix is more frequently situated on the outer edge of the psoas magnus, on the fascia iliaca, snugly curled up beneath the cæcum, and concealed by it—a fact which I have verified by many dissections, and one of great importance to the pathologist, as will be seen. In the event of a perforative ulceration of the appendix, and a consequent peritonitis or fæcal abcess, the parts involved will differ entirely, according to the situation of the appendix. If it should happen to depend into the pelvis, then the pelvic viscera will be implicated; if it should happen to be situated on the iliac fascia, and underneath the cæcum, then the belly of the iliacus internus and the neighboring adipose cellular tissue will be involved, and the course of the abscess be determined accordingly: so important is the relative anatomy of even inconsiderable organs to the physician."

The foregoing cases are selected from eighteen well marked instances of this class of affections which have occurred under my own observation during the last fourteen years. I met with several other examples of this disease during the earlier years of my practice, of which no notes were made at the time. I have also occasionally seen cases in consultation with neighboring physicians, so that abundant evidence is afforded of their frequent occurrence, at least in this section of the country.

They are spoken of by some medical writers as being obscure in their origin, and often difficult of detection. Professor Albers, of the University of Bonn, makes the following remark, "That the diagnosis of the diseases of the cæcum is attended with no inconsiderable difficulty appears from the well known circumstance, that very often they have never been suspected to exist during the life of the patient, and have been discovered only on dissection."

Dr. Burne remarks, that "A practitioner who witnesses one of these cases for the first time, is satisfied it is not a common inflammation of the bowels, although he does not know its exact nature—he says the case is a curious one—he cannot make it out."

Dupuytren, in speaking of the importance of a correct diagnosis in these affections, says, "I have seen this inflammation give rise to the belief of the existence of internal strangulation, hepatitis, metritis, and even peritonitis." That these affections are sometimes mistaken for common inflammation of the bowels, or "Bilious Colic," I am fully aware, having been consulted in four well marked cases, the true nature of which had been entirely misapprehended. One of these terminated in the usual way by resolution—the other three were allowed to pass on to suppuration, one of which terminated fatally, the abscess bursting into the peritoneum. The other two cases opened externally, a little above the crural arch, one of which formed ill-conditioned sinuses which remained open more than a year—and finally recovered.

The causes of failure in diagnosis are probably owing in part to the mildness of the earlier symptoms, which attract but little attention from the patient or physician; but principally to the fact, that the pain attending them is generally described by the patient as a colic, and is frequently referred to the umbilical region, or to the abdomen generally. Indeed it is very rare that the patient directs attention to the seat of the disease.

It is only by a careful examination that the nature and seat of the diffi-

culty are detected. By gentle pressure or percussion over the surface of the abdomen, as you approach the right iliac region, the patient shrinks from you, or perhaps instantly seizes your hand, and betrays surprise at the discovery of such exquisite tenderness.

Hence the importance of carefully examining every part of the abdomen, in these, as well as in all other affections of the abdominal viscera.

If we take into consideration the situation of the cæcum, fixed as it is in the parietes of the abdomen, admitting of no considerable variation in its relative position with regard to the other viscera, it must be evident, that with such an examination the disease under consideration would seldom escape early detection.

The progress of the phenomena as developed in these affections, is thus described by M. Dupuytren: "After some error in diet, a constipation or diarrhœa, of longer or shorter duration, more or less habitual colic; sometimes without any of these causes, the patient suffers from violent colic and pain in the bowels, with a tendency to concentration in the right iliac fossa; it may also extend towards the large intestine, or over the whole abdomen. This colic is generally accompanied by constipation, and sometimes vomiting; such are the symptoms by which we may predict the occurrence of the tumor. They are of very various duration; sometimes lasting for a month or more, sometimes for a few days only."

Dr. Hays, Editor of the American Journal of the Medical Sciences (see Medical Essays, vol. 1, page 81, published by Lea and Blanchard, 1841), says: "the disease usually announces itself by certain *precursory symptoms*, as colic, with alternate constipation and diarrhœa, occurring at longer or shorter intervals, and continuing for a greater or less period. After a while the attacks of colic become more severe, and appear to centre in the right iliac fossa; they may also radiate in the direction of the great intestine, or spread over the whole cavity of the abdomen. These pains are usually attended with obstinate constipation, and sometimes with such violent vomitings as to simulate an internal strangulation. In some cases the disease has its origin, is attended with less violent symptoms, and commences with pain in the right iliac fossa. If this region be examined, it will be found more tender to the touch, more resisting, and sometimes to project more than in the natural state. It is frequently possible, by pressing upon the abdominal parietes, to distinguish a circumscribed tumor of variable size, of considerable firmness, more sensible to the touch than any other part of the abdomen, and appearing to rest upon the cæcum; the remainder of the abdomen is soft and indolent. The patient continues at the same time to complain of colic and constipation."

Dr. Burne, in the papers to which we have already alluded, gives the following graphic description of these affections: "In all the examples of inflammation of the cæcum, which I have witnessed, the development of the symptoms has been in the following order: The first sign is a sense of uneasiness, which soon amounts to an aching pain, deep-seated in the right ilio-inguinal region, arising unexpectedly while the person was in health, and not preceded by rigor or exposure. This pain increases progressively for twelve or twenty-four hours, retains its character, is fixed and constant, never even remitting. Then supervene gradually tenderness, fullness, and tension of the whole ilio-inguinal region; the bowels are constipated and do not reply to medicine, and the patient grows sick and vomits. Some febrile movement now begins to manifest

itself; the tongue becomes white and furred; the urine scanty; the appetite is gone; the pulse is frequent, tight, and sharp, with increased volume, but the stroke, though sharp, is not strong, nor is its impression on the finger decided—it is a pulse of irritation and inflammation combined; the patient lies on the back quite still, slightly inclined to the side affected, and the case presents a serious aspect."

The above is certainly a faithful delineation of most of the symptoms which are usually manifested in these cases, but these phenomena are most invariably *preceded* by a series of "*precursory symptoms*," as noticed by Dr. Hays.

By referring to the cases detailed by Dr. Burne, it appears that no one of them came under his observation earlier than the fifth day after the attack; a circumstance which fully explains the cause of his having failed to notice the *symptoms*, which usually precede what may be considered as signs, peculiar to these affections.

Instead, therefore, of waiting for the development of local signs, these symptoms should at once awaken our suspicions, and if we are led by them to a careful examination of the abdomen, we may, even before the attention of the patient has been directed to the part, discover a circumscribed fullness, well defined, and quite tender to the touch, situated over the cæcum. It is during the prevalence of these earlier symptoms, that a well directed treatment will often prove most successful.

The course of practice which I have found most successful in these cases, previous to the development of inflammatory action, is a free use of calomel and opium, together with warm fomentations to the abdomen. When the system is fully under the influence of opium—pain and spasmodic action having subsided—an enema of castor oil and spirits of turpentine, in a sufficient quantity of warm water to freely distend the colon, will generally succeed in removing the offending matters. By thus removing the cause of the difficulty, we may often avoid the more serious character of these complaints. If, however, this course proves unsuccessful, and inflammatory action supervene, it must promptly but cautiously be met; and here I cannot do better than to commend as worthy of special attention, the following judicious observations of Dr. James Johnson. "As the inflammation is the result of a mechanical source of irritation, or, perhaps, obstruction, it is obvious that depletion must not be carried to so great an extent as in idiopathic enteritis. Another consideration which should moderate the employment of depletory measures, especially of local or general blood-letting, is the reflection that the patient may have to go through an iliac abscess, and that his powers should be husbanded for its support. The depletion, then, should be cautious; enemata, and such purgatives as the stomach will bear well, should be administered; light poultices and fomentations are to be applied; and about the fifth or sixth day the bowels may begin to act, and the symptoms to subside. Should they not subside, the physician or surgeon must anxiously watch for the first appearance of an emphysematous tumor, and make an early incision into it; fœtid gas escapes, and the cellular tissue is more or less sloughy, or actually sloughing. The patient must now, of course, be supported, and even stimulated, to the necessary pitch."

There seems to be some difference of opinion among practitioners, as to the propriety of opening these abscesses after suppuration has taken place. M. Dupuytren and Dance recommend leaving them to the efforts

of nature, allowing the matter either to make its own way to the surface, or to escape through some of the natural passages; while on the other hand, Drs. Hargrave and Kennedy, of Dublin; Drs. Johnson and Copland, of London; and Dr. Hays, of Philadelphia, advise a free opening for the exit of purulent matter, as soon as a tendency to the surface is evident. There can be no doubt that the latter course will be sustained, when experience shall have decided their relative advantages.

We occasionally, in these cases, meet with an exceedingly irritable condition of the rectum. Under these circumstances, an enema, by a common syringe, will not be retained in sufficient quantity to be of much advantage. We may then resort to the use of an elastic tube, passed high up into the colon, as recommended by Dr. O'Beirn.

I have during the last two years made use of the tube described in connection with Case IV., which I have found in some respects preferable to the common elastic tube. Its advantages consist in its being of sufficient firmness to retain whatever shape or course we may choose to give it, previous to its introduction, while the bulb at its extremity is not liable to be obstructed in its passage by the loose folds of the mucous membrane; we consequently avoid all danger of breaking the tube, or of injuring the coats of the intestine.

In detailing the foregoing cases, I have appended occasional remarks; not, however, for the purpose of offering to the profession anything new, but rather with the intention of directing the attention of the readers of your Journal to a class of affections which are scarcely noticed in the systematic works which constitute the libraries of most country practitioners; and also of inviting their attention to the articles from which I have drawn so largely in preparing this paper.

ART. VII.—*Memoirs on the Blind Fishes and some other animals living in the Mammoth Cave in Kentucky (with a plate).* By THEO. A. TELLKAMPF, M.D.

THE celebrated Mammoth Cave, situated in Edmonson county, Kentucky, has long been known to the Aborigines of that country, and subsequently to the white settlers; yet it is only within a few years that the dark recesses of that vast subterranean labyrinth have been explored, some of which have recently been penetrated to the distance of twelve miles, without arriving at their extremities. At a distance of about five miles from the entrance of this cavern, which opens towards the south, facing Green River, the curious adventurer reaches a body of water, extending itself in one of the branches, nearly horizontally, for a mile or more. This collection of water has generally been considered as a river, and from its peculiar situation, has been named the "Styx." In the rainy season, which usually occurs in winter and spring, the water is muddy, and sometimes rises from thirty to forty feet, flowing in a northerly direction, and finally disappears among the somewhat inclined strata of carboniferous limestone of which the bed and walls of the cave are formed. During the summer and autumn, after the water has fallen to its lowest level, and the clay has subsided, it is perfectly clear. When I visited this cave in October, 1842, there was not the slightest

perceptible flowing of the water, which was of a temperature of 57½° F., while that of the air was 56°, and which covers the bottom to a depth of five to eight feet.

In searching for vegetables and animals in this cavern, not the slightest vestiges of the former were to be found; but it contains several species of fish, crabs, insects, spiders, etc., and these, in general, appeared to be imperfectly formed. The one, commonly known by the name of the "Blind Fish," has already called forth several communications, which, however, are not so complete as to set the subject at rest, particularly in regard to two very important points, namely: its asserted *absence* of *eyes*, and its *classification*. Wyman, in Silliman's "American Journal of Science," for July, 1843, has given in most points, quite a good description of this fish, with some interesting anatomical details. This communication is reprinted in the "Annals of Natural History," vol. xii., 1843, p. 298; and DeKay mentions it in the "Natural History" of the State of New York, in which he calls it *Amblyopsis spelæus*. Some remarks by Thompson, on the blind-fish, a species of crab, and a cricket, found in this cave, are also given in the above-named journal, vol. xiii., 1844, p. 112.

Besides the colorless blind-fish, there are also others found in the cave, which are black, commonly known by the name of "Mud-Fish." I saw a dark-colored fish in the water, but did not succeed in catching it. The latter are said to have eyes, and are entirely dissimilar to the blind-fish. I saw several white crabs, some of which were taken. The motion of the gills, and also of the internal organs, was distinctly seen through the transparent shell of a young specimen, hardly an inch in length, while in an older individual it appeared perceptible in a less degree. The *Astacus pellucidus* (Nobis) is nearly allied to the *A. fluviatilis* of Europe, but does not attain the same size The claws (*mani*) of the first pair of feet are delicate and slender, the foremost joint a little curved, and slightly serrated. The eyes do not protrude, but are hidden under the shield of the head. The antennæ are long and very fine. The first joints of the two pair of feet next to the hindmost ones, have on each of their anterior edges, a slightly curved horn, directed forward and inward, those of the hindmost pair being imperfectly formed. Thompson says, that these crabs are the same as the *Astacus Bartoni;* but, on examining the two, a visible difference will at once be perceived.

A species of cricket, which the last named author mentions, and which he considers as related to *Phalangopsis longipes* (Audinet Jerville, Histoire naturelle des Orthroptères), are very abundant throughout the cave.

There are also found in the cavern:

Small white eyeless spiders, *Phalangodes armata* (Nobis) of the order Opilionia; and *Anthrobia monmouthia* (Nobis) of the order Aranina.

Flies of the genus Anthomyia.

Triura cavernicola (Nobis) of the class Crustacea, and order Malatooth costraca.

Eyeless beetles, Anophthalmus, which coincides remarkably with the *Anophthalmus Schmidtii*, from the Luegger cave, described by Sturm in "Deutschlands Insekten," Bandchen xv., 1844, with the exception of the tooth on the middle of the inner edge of the maxilla.*

* ANOPHTHALMUS TELLKAMPFII.—A. testaceus, thorace oblongo subovato, elytris substriatis, bipunctatis.—Long. 3 Lin.

Although nearly allied to the *Anophthalmus Schmidtii* of Sturm (Deutschl. Ins.

Adelops hirtus (Nobis), Clavicornes; related to Catops. Of the latter only one specimen.

For a minute description, and the particulars concerning these insects and crustaceous animals, which I have given, the reader is referred to Wiegmann's "Archiv für Naturgeschichte," X. Jahrg. 1 Bd.

I have examined the water of the cavern for animalculæ, and have shown some hasty sketches of them to Professor Ehrenberg, of Berlin, Germany, who has furnished me with some remarks concerning them.

In the furthest grotto, "Serenas Bower," nine miles from the entrance of the cave, are found some animalculæ, resembling *Monas kolpoda*, *Monas socialis*, and a new species, similar in external form to the Bodo.

The water of the "Styx" contains a chilomonas, which also appears to be new. Ch. emarginata, elliptic, irregularly sinuated, with a projecting lip; and besides, another species resembling the *kolpoda cucullus;* possibly it might have been the *chilodon cucullus*, which is very common in mines.

The blind-fish is found solitary, and is very difficult to be caught, since it requires the greatest caution to bring the net beneath them, without driving them away. At the slightest motion of the water, they dart off a short distance and usually stop. Then is the time to follow them rapidly with a net, and lift them out of the water. They are mostly found near stones or rocks which lie upon the bottom, but seldom near the surface of the water.

The color of the blind-fish is naturally white. The head is broad, slightly convex towards the snout, and perpendicularly compressed. The breast is round, and the other part of the body gradually diminishes both in height and thickness: but behind the abdominal fins, it is compressed. Its vertical and transverse diameter in the region of the pectoral fins, is one-sixth of the whole length of the fish, if reckoned from the extremity of the snout to the commencement of the caudal fin. Its greatest height is in the abdominal region, at a point two-fifths of the length of the fish, reckoned from the extremity of the snout. Its height before the caudal is one-tenth, and its thickness one-twenty-fifth of the length. The head in the middle is somewhat broader than the breast, but becomes smaller towards the snout. It is nearly half as high as it is long, and its length is contained three and a half times in the entire length of the fish. It is covered with a naked white skin, which is raised in numerous small longitudinal and transversal folds on the upper and under sides, particularly towards the snout. These folds are fringed, and without doubt, serve as organs of touch. The lower jaw projects beyond the upper one, and forms horizontally a semi-circle. The curve of the mouth is the same as the maxillaries; the mouth extends across the whole breadth of the head. The upper jaw is formed mostly by the intermaxillaries, which, like the lower maxilla, have small, pointed, hetchel-formed teeth curved inward, lie in parts adjacent to the maxillar bone, outwardly to the angle of the mouth. The snout is inextensile. The palatine bones support a fascicle of fine pointed teeth, but on the vomer are none. The tongue is smooth; four arches of the gills, more broad than thick, support on the anterior small, and on the posterior larger

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xv., S. 303,) which lives in the Luegger cave in Inner-Krain, yet it is clearly distinct as a species, by the form of the shield of the neck, which is not cordiform, but oblong egg-shaped, by broader and more rounded wing-cases, and at least to judge by Sturm's plates, by longer and finer limbs, that is, legs, antennæ palpi, and even mandibles and maxillæ.—*Erichson.*

hemispherical bones, the entire convex surface of which, under the microscope, appears armed with minute slightly-curved horny teeth. The superior and inferior jugal bones are also armed with fine, but somewhat larger teeth.

The anterior openings of the *nostrils* are situated very near the mouth, and are surrounded by a tubular process of the skin, the length of which is equal to the distance of the anterior, from the posterior nostrils. The distance of the anterior nostrils from each other, and that of the posterior from the anterior, is nearly the same, and is less than half of the breadth of the mouth. The posterior nostrils are surrounded only by a very slight elevation of the skin, are crescent shaped, with the angles directed towards the mouth, and are enlarged angularly in the middle. If the skin of the head be removed, the great muscles of mastication and of the occiput will be seen first, between which and the frontal bone will be found a bluish-white cellular tissue, in some parts of a yellowish tint containing fat. The nerves which pass through it, are those of the muscles and of the skin. Numerous fine nerves lead from the trigeminus to the fringed folds of the skin, and to the skin of the head generally. The want of eyes appeared to be certain, as had been stated by all former observers. The fact, however, that heretofore no positive case of eyeless fish has been found, and that even with the Myxinæ, a very minute organ containing a nerve and situated under a superficial layer of muscles, must be regarded as an eye, should make observers careful. I did not succeed with two specimens which I dissected, in detecting even the vestige of an eye. With a third specimen well preserved, which I examined with Professor J. Müller, of Berlin, Germany, we succeeded in discovering a small rudiment of an eye, which we could perceive through the skin by means of a powerful lens, as an extremely small black point. It was situated under the skin in a comparatively large cavity filled with cellular tissue, covered by the external skin. Its form was round, one-twelfth of a line in diameter, and was entirely black without a cornea. Under the microscope nothing further could be ascertained than that the pigment forms the most external layer, under which lies a colorless membrane. With regard to the contents of the eye, we could not determine upon anything with certainty. This kind of eyes among fishes, therefore, stands like those of the *branchiostoma lubricum*, and like the eyes of some worms, appears only designed for the perception of light generally, but not for the perception of images. In the cranium I succeeded in following up a very small nerve in a direction towards the eye, which we had not seen in the orbits. The black point is seen on both sides in a similar position.

Four gills, double arched. False gills, none.

The openings for the branchia are moderately narrow, and extend from two-thirds of the height of the body to nearly the middle of the throat. The membranaceous skin of the gills has six arches, and is attached to the middle line of the isthmus. The gill-cover (*operculum*) does not show any processes.

The *pectoral fins* are situated over the lower third part of the height, are oblong-oval, with ten articulated rays, increasing in length towards the middle.

The *abdominal fins* are situated near to each other in the middle of the body, each containing four rays. They reach beyond the base of the anal fin ; and are one-tenth of the length of the fish itself.

The *dorsal fin* is three-fifths of the length of the body from the anterior edge of the lower maxilla, and consists like the other fins, of articulated rays, ten in number, the first two of which are undivided. It is somewhat longer than the pectoral fins, being of the same length as the caudal, and is situated above the anal fin, a little forward of it.

In the *anal fin*, I counted ten rays, the two anterior undivided, all articulated, and of the same length as the pectoral fins.

The *caudal fin* consists of eighteen rays, is of a lanceolate shape, and is of the same length as the head.

The back and the sides of the abdomen are longitudinally furrowed. The lateral line runs from two-thirds of the height somewhat downwards, and then divides the body into two similar parts. As I did not perceive any pores in this line, I came to the conclusion that it is simply a furrow caused by the position of the muscles.

The *anus* is a small opening, the inner edge of which is sinuated and located before the pectoral fins. Between the posterior and inferior extremities of the gill-cover (operculum). Directly behind the anus, is the common external opening of the *vas deferens*, and of the bladder. This opening is situated in the middle of a small elevation of the skin, and is scarcely visible to the unaided eye.

B. 6. P. 10. V. 4. D. 10. A. 10. C. 18.

The *head* is scaleless.

The *scales*, which cover the body, with the exception of the skin where the fins unite, are very small, oval, with perfect edges, are grooved; and on the part inserted into the skin the striæ are interrupted by radiating lines. (See Fig. 5.) When preserved for some time in alcohol, the frontal bone can be seen through the soft, semi-transparent skin, which covers the head, and in one specimen, the cerebrum could be distinctly seen.

The *pharynx* and the œsophagus are longitudinally folded down to the cardia, which folds rise considerably inwards. At the cardia the thick folded mucous membrane of the œsophagus passes over in the somewhat thinner and less folded membrane of the stomach. The stomach has a fundus, is oblong-oval, and descends on the left side of the abdomen two-thirds the length of the ventral cavity.

The *pylorus* is situated at the inferior edge of the stomach, and is marked externally by a slight contraction. It consists of a short canal with thickened coatings, which was, in the specimen examined by me, one-twelfth of an inch in length, and was covered towards the stomach by a thin valve, which closed the opening from the front, and particularly from one side. The inner membrane of this canal is longitudinally folded, and reaches as a circular fold into the duodenum, which returns underneath the stomach and œsophagus towards the diaphragm. This fold of the mucous membrane, in protruding into the duodenum, serves as a valve, which closes the pylorus against the contents of the intestines. The duodenum, as well as the intestines, are thinly coated. Under the mucous membrane, particularly in the duodenum, lie here and there small globules of fat, especially where the cæca are united to the duodenum. The number of the cæca appear not always to be the same. In one specimen I found two wide, and in another three small cæca.

The *duodenum* is wide, and turns, as before observed, in a straight line underneath the stomach to the liver. The intestine bends above the anus towards the right side, then returns to the middle of the cavity of

the abdomen, thence towards the left, and finally towards the front directly to the anus. The liver is moderately large, with a parenchyma of tolerable consistency. It is divided into two lobes, the left of which is by far the largest, and reaches to the extremity of the stomach. Its external surface is convex, its inner, concave, with the anterior portion broad, and the posterior small, long, and pointed. The right lobe consists of two very small trilateral lobes, one-half as long as the left lobe, one situated underneath and between the loop formed by the intestine and the rectum, and the other between the intestine and the external parietes.

The *gall-bladder* lies underneath the liver, more on the left than on the right side of the ventral cavity, between the air-bladder, the stomach, and the rectum. It is moderately large, pyriform, with the short ductus choledochus opening into the duodenum, near the place where the last cæcum is annexed.

The *spleen* is of a loose texture, lobed, of a brownish color, and is situated near the spine, on the right side, between the extremities of the stomach, and the intestines, under the air-bladder, with which it is connected by cellular tissue.

The *testicles* consist of two small oblong pointed bodies, located in the longitudinal diameter of the cavity of the abdomen; scarcely reaching down to the middle. They are found in the middle of the lower surface where the vas deferens lies slightly furrowed longitudinally. The latter organ empties itself behind the anus into the excretory duct of the bladder.*

The *kidneys*, which are oblong and very small, are placed in the posterior part of the ventral cavity, above the air-bladder, along each side of the spine, with their short duct emptying into the posterior extremity of the urinary bladder.

The *urinary bladder*, elongated, occupies the lowest part of the abdomen, in the longitudinal diameter, the posterior part of which terminates in a point. It turns upwards around the air-bladder, receiving the duct of the kidneys, and in front, gradually extends itself into a long canal, which opens directly behind the anus.

The *air-bladder* is si ıple, without otolithes, and occupies the whole superior part of the cavity of the abdomen. Its external fibrous membrane is compact and of a greyish color. The inner membrane forms, in the middle, a vertical partition, which divides it into two parts. It is also longitudinally divided nearly in the middle into two horns diverging towards the front; gradually decreasing in circumference, they run to a point, and are connected by cellular tissue on each side with the pharynx and the diaphragm.

From the middle of the lower surface runs a fine fibrous ligament, in a straight line, to the rectum, with which it is connected on its lower side between the valve of the rectum and the anus.

From the middle of the superior surface of the air-bladder, two rather strong muscles run out near each other, and between these runs the small canal of the air-bladder towards the pharynx.

The *peritoneum* contains a hard fat, which occurs in large and small globules.

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* According to Thompson, the fish is viviparous. One specimen which was caught and placed in water, produced twenty young ones, about one-third of an inch long. They swam about at first, but soon after died.

The *heart* is oval, pointed towards the front, with the bulbus aortæ conical, and is twice as long as broad. The auricle opens in the superior posterior side of the ventricle, and lies directly underneath the union of the processus coracöidei.

The *brain* is similar to that of fish in general. There are lobi optici, but not much developed, so that they are exceeded by the lobi hemisphærici. (For details, see the explanations to fig. 4.) The *ear* contains two otolithes.

The length of the largest specimen, from the snout to the extremity of the caudal fin, is four and one-half inches.

The nourishment of these fish consists, probably, of insects, and other animal matter, brought to them by the water flowing into the cave from without. I thought that I recognized in the stomach of one, some remnants of insects. The eggs of the crabs which inhabit the cavern, no doubt, constitute a portion of their food.

The fish, according to its anatomical structure, and the position of its fins, belongs to the order Malacopterygii abdominales; but it does not correspond with any of the families of this order, at present known. It does not belong to the Siluröides, because it has scales and no filaments (*cirri*). It differs, also, from the Cyprinodontes, from the fact that the stomach has a fundus, and the intestines have cæca; from the Clupeæ, as it has no false gills. In its anatomical structure, however, it has some resemblance to the family of the Clupesoces, which Müller characterizes, "Beiträg zur Kenntniss der natürlichen Familien der Fische" (Wiegm. Arch., 1843, p. 325), in the following manner: Fish without adipose fins and false gills, with the mouth enclosed in the middle by the inter-maxillar bones, and on the sides by the superior maxillar. The cæca, very small in number, or entirely wanting.

This coincides, in general, with our fish, with the exception of the maxillaries; for the superior maxilla is situated rather *behind* the inter-maxillar bone, parallel with the latter, than being a continuation of the same. But what separates the blind-fish from this, as well as from all other families of the *Malacopterygii abdominales*, is the position of the anus before the pelvis. It is situated between the ventral and pectoral fins, or between the pelvis and the shoulder girdle, directly behind the latter. This position is so abnormal and singular, that it alone justifies the constitution of a new family, which we propose to call Heteropygii. The pelvis of our fish consists of two triangular bones, which are situated, as usual, on the ventral side of the abdomen, between the muscles, touching one another without being united by a suture. The ventral fins are connected with these bones, and, therefore, represent a symphysis ossium pubis; nevertheless, the anus and the urogenital aperture are not located, as they should be, behind the ossa pubis, but before them, directly behind the shoulder girdle, as in the Gymnotus carapus, and Enchelyopsis Mülleri, which, however, have *no* ventral fins. Notwithstanding I found the family upon but one specimen, yet I believe I am justified in so doing, and am the more confident in this matter, as it has the approbation of Dr. Troschel and Professer Müller. It is certain that among all the Malacopterygii, no analogous case is known in which the anal and urogenital artifices are situated before the pelvis and the ventral fins. There is one instance among the Acanthopterygii, mentioned by DeKay, called *Aphredoderus gibbosus*, also of North America, which Cuvier and Valenciennes have classified with the Percöides, where the

ventral fins are beneath and behind the pectoral fins, and the anus placed before the pectoral fins. In the IXth volume of (Cuvier's) "Histoire Naturelle des Poissons," p. 452, are given some notions in regard to the Aphredoderus gibbosus. The rectum passes through the pelvis, and between the abdominal muscles to the anus; the pylorus has six cæca; the air-bladder is undivided, and is very large. Now arises the question whether Aphredoderus and Amblyopsis, though distinguished by the formation of their fins as Acanthopterygii and Malacoptherygii, are to be classified in the same family?

The Aphredoderus is characterized, and remarkably so, as one of the Acanthopterygii, not only by the usual number of rays in the ventral fins, but particularly as all these rays are articulated or soft. Now whether the Aphredoderus and Amblyopsis are to be brought into a new family, HETEROPYGII, remains to be decided. Professor Müller is of the opinion that it will depend entirely upon the fact whether the air-bladder of the Aphredoderus has an air duct or not; for not one of the Acanthropterygii has such an organ. If the Aphredoderus has no air duct, it cannot be classified in the same family with the Amblyopsis, it would then be a Heteropygius among the Acanthopterygii; the only representative of a family analogous to that of which the Amblyopsis should be the sole representative among the malacopterygii; but if the Aphredoderus has an air duct, it is certain that both fish belong to each other. The family containing them would form a family by itself, which could be classified neither with the Acanthopterygii nor with the Malacopterygii abdominales.

It is an interesting fact that animals are found in the Mammoth Cave, some with eyes, others with mere rudiments of eyes, and others again with no eyes at all: and it is no less remarkable that of two species belonging to the same class, the *Black-fish* and the *Amblyopsis*, the eyes of the former are fully developed, while those of the latter are merely rudimentary. Moreover, of two species belonging to another class, the one—the *Adelops*, has rudimentary eyes, while the other—the *Anophthalmus*, has none.

The reason of these differences, in the case of animals living in the same cave, under similar external influences, cannot at present be fully explained. The following remarks, however, are offered as a partial elucidation of the subject, especially with reference to the eye of the *Amblyopsis*; and it may be well to premise that there are two other questions closely connected with the first, and worthy of examination, viz. Have the animals found in the Mammoth Cave existed there since their creation, originally destined for that locality? Or, have they entered the cave from without?

In order to answer these questions satisfactorily, we must first refer to the geological formation of the cave.

The carboniferous limestone, in which the Mammoth Cave is situated, comprises a great many layers, varying in different localities, in thickness and consistency. (The coal-limestone of Europe is uniformly more solid:) Among the secondary rocks, it is, according to their relative age, one of the oldest. Though the formation of the cave does not date so far back as that of the carboniferous limestone, yet we may infer that it began to be formed after the secondary rocks, superior to the carboniferous limestone, were deposited and partly washed away again, and after the water had cut for itself a channel through the remaining

layer of the superior secondary rocks (the sandstone), as well as through the highest layers of the carboniferous limestone. From what has been said, and from the geological relation of the layers of rocks in the great valley between the Alleghany and Rocky Mountains, we are justified in the inference that the cave had an existence previous to the mundane revolutions which gave it its present form. It is also abundantly obvious, that it must have been principally formed by water, flowing in from the sides between the layers, from the Green river, and probably from lakes which must have existed at an early period (where fertile valleys are now seen, enclosed by the surrounding plateau-land), as well as from the so-called sink-holes. It is, therefore, as possible that the animals have existed there from their creation, as that the fish and crawfish may have been carried into the cave from without by the water.

Some considerations derived from physiology however, appear to favor the latter idea. (That the (*Phalangopsis*) cricket has entered the cave, cannot be doubted. It is found throughout this and neighboring caves, for instance, in the White Cave; and is most frequently met with near the entrances.) Respecting the *Amblyopsis*, the idea that its eye had become rudimentary from the want of light, gains some additional strength from the relative size of the lobi optici, the optic nerve, the eye and the orbita. Vide p. 87 and p. 90.

It is a universal rule in the animal kingdom, that the form of animals and their organs is adapted to the ends for which they are designed. That two species of fish should be found in the same body of water within the cave, one with *perfect*, the other with merely *rudimentary* eyes, appears to be entirely at variance with this rule; particularly, if we remember that the eye of the *amblyopsis* is so little developed (remaining on its first type) as to correspond anatomically with the eye of worms, &c., although, as has been remarked, this fish must be classified with the higher order of pisces. Besides, the *amblyopsis* stands alone, in this respect, among bony fish. There can be no end answered, it would appear, by giving some of these animals eyes, constructed for the purpose of receiving either impressions of light or images, while the optic nerves possess no power of reaction, against their necessary stimulus—the light. It is well known that persons, who for some reason accustom themselves to the use of only one eye, lose almost entirely the sight of the other, though it continues to receive impressions of the light. This result must follow, and the effect must be stronger, if the eyes are continually inactive from birth, as is the case with all animals living in the Mammoth Cave, and as has been the case with them, generation after generation. We may assert positively, that none of them can see, except the *Phalangopsis*, which lives near the entrance of the cave. The conclusion, then, at which we arrive is this, that these animals, living in total darkness, have lost their eye-sight for want of exercise.

During my stay at the Mammoth Cave, I observed that the *Amblyopsis*, the black-fish, and the crawfish, remained motionless while I moved a burning lamp around them, but that they were disturbed by a slight motion of the water; proving that the light made no impression upon their optic nerves, while their sense of touch was acute.

While it is true, in general, that all animals retain their essential form, and that no species passes over into another by transformation, we know that less material changes of form are produced by external influences

such as change of climate or food, lasting through many generations of the same species, and that one species resists such influences more than another. Whether the *Amblyopsis* and the crawfish are to be regarded as varieties of species not yet known, must remain doubtful until such species, corresponding with them in all essential points, are found.

Change of color and transformation of the skin could be easily accounted for, as in accordance with known facts relating to the varieties of certain species of animals transported from a Northern to a Southern climate, and *vice versâ:* but the change in the eye of the blind fish is not so easily explained. We have no recorded facts, on which to base an opinion; unless we take the change of the eye, together with that of the skin and its color, which we observe in Albinos and other cases. The following facts are certainly more important.

The eyes of a young specimen of the *astacus pellucidus*, about an inch long, protrude beyond the shield of the head, while in all the older full-grown specimens, they are smaller in proportion to the body, and covered by the shield of the head. We conclude that the eye of the crawfish is not developed in proportion to the body, and that a minute examination of the eye will prove it to be defective.

Some new discoveries must be made, ere all questions are set at rest, with regard to the influence on the eye of a continued want of light, during several generations of different species. The peculiar development of the eye in the animals found in the Mammoth Cave may, perhaps, indicate these effects: but we can make no positive assertion, without stepping from the field of sure investigation into that of speculative vagueness. Theories and hypotheses must pass for what they are worth, even if they have a tendency to lead to new discoveries.

Explanation of the plate.—The three drawings of the fish represent it in its natural size; the spot where the black rudiment of the eye is situated, covered by the skin, is marked by x.

Fig. 1.—*a.* Head. *b.* Teguments of the abdominal cavity, turned aside. *c.* Anal fin *d.* Liver. *e.* Stomach. *f.* Cardia. *g.* Pylorus. *h.* Cæca. *i.* Duodenum. *k.* Intestines. *l.* Rectum. *m.* Stricture of the rectum, where the valve is located. *n.* Bladder. *o.* Spleen. *p.* Testicle. *q.* Air-bladder. *r.* Anus. *s.* Common orifice of the bladder and the vas deferens.

Fig. 2.—*a.* Œsophagus. *b.* Cardia. *c.* Stomach. *d.* Fundus of the Stomach. *e.* Pylorus. *f.f.* Cæca. *g.* Duodenum. *h.* Intestines. *i.* Valve of the rectum. *k.* Rectum. *l.* Anus.

Fig. 3.—*a.* Air-bladder. *b.* Air-duct of the air-bladder. *c.* Muscles of the air-bladder, which extend from the superior surface to the pharynx. *d.* Fibrous ligaments, which proceeding from the inferior surface of the air-bladder are attached to the superior surface of the rectum.

Fig. 4.—*a.* Nerv. olfactorius. *b.* Lobus nerv. olfact. *c.* Lobus hemisphæricus. *d.* Introitus ad ventr. III. *e.* Lobus opticus. *f.* Cerebellum. *g.* Lob. medullæ oblongatæ. *h.* Nervus trigeminus. *i.* Nerv. vagus.

Fig. 5.—Scale, magnified.

PART SECOND.

Critical Analysis.

ART. VIII.—*A Practical Treatise on the Diseases peculiar to Women.* By SAMUEL ASHWELL, M.D. Member of the Royal College of Physicians, London; and Obstetric Physician and Lecturer to Guy's Hospital. With Notes by PAUL B. GODDARD, M.D., &c. Philadelphia. Lea & Blanchard, 1845.

THIS is strictly what its title imports, viz.: a "Practical Treatise," and is one of the best among the many works on the same subject, which have recently emanated from the press. Few practitioners possess the advantages of Dr. A., for investigating the diseases of which he treats. Actuated by a laudable ambition to be useful, he felt bound to place the result of his opportunities before the public; he says in the preface, "It is now more than twenty years since my attention was particularly directed to the important branch of medical science which constitutes the subject of the following pages. During a great part of this period, Guy's Hospital with its extensive lying-in charity, and my own private and consultation practice in female diseases have afforded opportunities falling to the lot of few practitioners." The author remarks, "The disposition to publish has been strengthened by an opinion I have long entertained, that practitioners who hold important public opportunities, are bound, as far as their sources of authentic information can be made subservient, to improve and increase the common stock of professional knowledge." "The book contains little which is not the result of my own practice and observation." "My aim has been to produce a treatise on female diseases, true, simple and practical, which may form a safe and efficient guide to the elucidation of these intricate, rapidly progressing, and dangerous maladies." Pp. 6, 7.

Dr. A. divides his work into two parts. 1. "Functional Diseases of the Uterine system." 2. "Organic Diseases of the Internal and External Female Genitals." Our limits will compel us to confine our present notice to the first part. Dr. A. defines a functional disease as one "which is dependent on deviations from the natural, or healthy action of any part of the organization, indicated by symptoms during life, which after death are found to be unconnected with discernible changes of structure." P. 13.

CHAPTER I. *Chlorosis.*—Dr. A. makes three forms. 1. Mild and incipient; 2. moderate and confirmed; 3. complicated. The first commences almost unobserved; the patient may have been feeble from infancy, or at least, for some time previous to the development of the disease, but when arrived at the age of twelve, thirteen, or fourteen, puberty is not established; a series of distressing symptoms, as capricious appetite, languor, aversion to all exertion, constipation of the bowels, furred tongue, offensive breath, pain in the side or head, whilst the catamenial discharge is either not established, or is scanty and pale in color. In the inveterate and confirmed, all the above

symptoms are aggravated. The complexion becomes more striking; it is a "yellowish dirty green," with a peculiar pallid appearance of the lips, conjunctiva, &c. "Complicated chlorosis consists in the presence in a greater or less degree of the general symptoms of the disease, with a more prominent morbid affection with some distant organ or part of the system.'

The causes of chlorosis are divided into the predisposing and exciting. Predisposing causes: a delicate, feeble and undeveloped constitution, where the circulation and nervous powers are inadequately exerted to perfect the organization of the body, in consequence of which the evolution of the ovaries is delayed, and their peculiar influence on the system, and particularly on the uterus, is withheld; thus puberty is only imperfectly, or perhaps not at all established, and menstruation, which must be preceded by puberty, is absent." In married females and widows, it is usually some derangement of menstruation. Whatever relaxes and enfeebles the system, particularly in early life, tends to produce the disease. The exciting causes, whatever tends to produce depression of spirits, or dejection, or despondency of mind, disappointment, amenorrhœa, leucorrhœa, masturbation, excessive venereal indulgences, all tend to produce the disease.

Pathology of Chlorosis.—"It may, probably, be fairly assumed, certainly it is the most prevalent opinion, that chlorosis primarily depends upon a morbid condition of the blood which secondarily affects the ovaries and uterus, and retards their growth. This opinion is supported by the fact, that in the blood of chlorotic patients there is an increased proportion of serum, with a marked diminution of crassamentum. This has always been my view of the subject." P. 19.

In his preliminary remarks on the pathology of functional diseases of the uterus, Dr. A. says, "Chlorosis ought to be attributed to an impoverished circulation, and undeveloped ovaries." The latter part of the sentence would seem to be in contradiction with a previous statement, that he had met well-marked instances of the disease in the male sex.

Diagnosis.—The author very properly cautions the practitioner not to mistake some of the symptoms of chlorosis, as head-ache, severe pain in the side, palpitation of the heart, for inflammatory affections; he says, "From want of this caution, I have witnessed the very injurious consequences of such mistakes, the practitioner having forgotten (what in female diseases it is peculiarly important to remember) that the severity of the pain, and the rapidity of the pulse, are generally indications of irritability and excitement, not of inflammation demanding narcotics, carminatives, and at the most counter-irritation; not bleeding, active purgatives and spare diet." P. 11.

Complication of Chlorosis with Amenorrhœa.—Although a frequent attendant, and sometimes a consequence of protracted chlorosis, Dr. Ashwell does not think amenorrhœa a necessary attendant, and consequently treats it as a complication.

Chlorosis may have existed previous to puberty, and have prevented that perfect development of the reproductive organs necessary to the establishment of menstruation. "Or this complication may gradually occur as the result of amenorrhœa."

This complication of chlorosis with amenorrhœa, if judiciously treated by a proper combination of tonics and hygienic means, usually terminates in re-establishment of health, and this often without a resort to emmenagogues. If permitted to run too long without proper attention, other

diseases may supervene. Doct. A. says, "I have often, during the last few years, been requested to treat such patients, of whom, had I judged from what I heard, I should not have predicted any danger; and yet on careful inquiry, and sometimes at first sight, I have been convinced the case was all but hopeless." Under favorable circumstances, as change of air, exercise in the country, with a judicious course of tonics, even these protracted cases sometimes do well; but in others some vital organ becomes complicated, and the disease proves fatal complication, with a discharge of blood from the stomach by vomiting. This is not an unfrequent complication. The treatment may have been so far successful as to improve the general tone and vigor of the circulation, but the suppression of the menstrual discharge continuing, engorgement occurs in some of the internal organs, and vomiting of blood is the consequence. Sometimes this hæmorrhage assumes a prominent character, occurring once in three or four weeks. These are the cases where local emmenagogues are particularly serviceable, the quantity and quality of blood is sufficiently improved to admit of this discharge, and every effort should be made for its restoration.

Complication with derangement of the function of digestion and nutrition. In all cases of chlorosis there is more or less disturbance in the digestive organs, but in some it becomes one of the most formidable complications, and the wonder is how the patient is able to live at all. Doct. A. thinks that even in the worst form of this complication there is seldom structural derangement, and if uncomplicated, with a tendency to phthisis, we may hope for a favorable result.

Complication with functional affections of the cerebrum. We can vouch for the truth of the author's declaration, that "there is scarcely any complication more difficult to relieve than this;" as also for his very graphic and accurate description of the sufferings and agony produced by this complication. In a few instances the pain is periodical and of neuralgic severity, while in others it is so nearly constant as to preclude mental or physical exertion, and almost to induce the belief that it must be connected with organic affection. It is consolatory to know, notwithstanding the amount and long continuance of the disease for months, and in some rare cases for years, "that the cerebral structures for the most part remain unchanged."

Complication with derangement in the vascular system. Although not so frequent as some of the other complications, the symptoms are formidable in appearance, and produce great apprehension on the part of patients and their friends. "Constipated bowels and severe headaches are common circumstances, but the entire loss of the natural color of the surface, œdema of the face and extremities, palpitation of the heart and syncope, are less frequent, and wear so formidable an aspect as to excite great alarm." Doct. A. has seldom found "ascites" to exist to any considerable extent, except when connected with structural disease of the chylopoictic viscera. The reader is cautioned not to attribute every icteroid hue of skin to disease of the liver.

Complication with disease of the lungs. Chlorosis seldom terminates fatally except when complicated with phthisis, but whether the chlorosis is to be attributed to a previous debility of the system, owing to a hereditary tendency to phthisis, or whether the latter disease is called into action by the former, it is difficult to determine. Our author inclines to the opinion that the chlorosis only calls into action a latent tendency to phthisis, which previously existed in the

system. In our variable climate, where phthisis is frequent and so fatal, too much care cannot be taken to guard against its first approach, and the possibility that chlorosis may produce phthisis should be sufficient to warn us against treating it with neglect. In this complication the physician should be guarded in his prognosis. One of the most favorable indications is a diminution in the frequency of the pulse. Whatever apparent improvement there may be in other respects, so long as the pulse continues 120 or 110 in a minute, there is little encouragement. "If, on the contrary, the pulse become slower, fuller and softer—if the cough be less frequent—if the pyrexia disappear, and especially if the patient gather flesh in ever so trivial a degree, hope may be entertained." "Carefully treat such an individual: avoid mercury, drastic purgatives and emmenagogues. Place her in the country where she shall breathe pure air: let her diet be simple and nutritious (milk and animal food), and her medicine some of the various tonics; and the expectation may be cherished that the time is not far distant when the sexual character will be fully developed and the dangers safely passed."

Treatment of Chlorosis. The treatment of the most common form of chlorosis must be the type of the treatment of all the rest. A grave error is not unfrequently committed in considering and treating it as a local disease, and vain attempts made to establish the menstrual discharge (as if its absence was the cause of all the difficulty) without restoring vigor to the general constitution.

At first a due evacuation of the bowels must be daily secured, and much will depend upon the kind of medicine by which this is effected. If mercury and drastic purgatives be frequently and largely employed, intestinal irritation will ensue, evidenced by unhealthy and undigested motions mixed with mucus and occasionally with blood. If the purging be excessive—if it be exclusively relied on for the cure—debility and exhaustion will result, and instead of amelioration, the whole of the symptoms will be aggravated. The best aperients are aloes, rhubarb, the sulphate of soda and manna; and if an alterative be necessary the hydrargyrum cum creta. It is superfluous perhaps to observe that warm clothing, regular exercise by walking, if it can be borne, if not on horseback, are valuable auxiliaries. Pp. 30, 31. When the deranged condition of the bowels is corrected and the tongue becomes clean (and not before), the various preparations of iron are advised; the sulphate is particularly recommended. "A single grain or even two may be given twice or three times daily, combined with extract of hop, aromatic confection, and a single grain of the extract of poppy or hyosciamus." Occasionally the iron is not well borne; then other tonics, as zinc, quinine, sarsaparilla, or gentian may be given. The iodide of iron is particularly applicable where there is a strumous diathesis, and is a favorite prescription with our author. "The iodide of iron has been extensively tried both in hospitals and private practice with undoubted success; especially when glandular enlargements and other indications of a strumous habit have been associated with the chlorosis, I give it in the subjoined form: Ferri iodide, gr. xvi. Tinct. columbæ, vel gent. c. ℥j. Aquæ distillatæ ℥vii. ft. mist. Sumat coch. ii. magna bis terve quotidie." P. 32. The chapter on chlorosis is closed by a number of interesting cases, illustrations of the practice of the author and the hospital to which he is attached, but our limits will not admit of our giving them to the reader; we must therefore refer him to the work itself.

CHAPTER II. *Of Amenorrhœa.*—Dr. A. divides Amenorrhœa into two varieties—1. Amenorrhœa of retention and Amenorrhœa of suppression. The first he divides into *a.* Amenorrhœa dependent on congenital deficiency or malformation, or structural diseases of the genital organs. *b.* Amenorrhœa, where, independently of deficiency of malformation, there is either a slow and partial development or an entire absence of puberty. *c.* Amenorrhœa after puberty is fully established.

In the first variety, where it arises from an absence of an organ, nothing can be done; where, from malformation, as an imperforate hymen, or an adhesion of the labia, a surgical operation may remedy the defect. We should not, however, lose sight of the fact that peritoneal inflammation is liable to follow such operations.

In the second variety, our treatment should be governed rather by the condition of the general health, than by the simple absence of the menstrual discharge. Individuals differ materially as to the age at which this discharge takes place. If there is sufficient tone and vigor of the constitution, we may expect the discharge to take place in due time, unless there is some defect or deficiency of the organs concerned in its production; and this defect cannot be remedied by medical treatment. When owing to feebleness and delicacy of constitution, the same treatment should be adopted as recommended for chlorosis.

The third variety, viz. amenorrhœa after puberty, is fully established and divided into, 1st, The too plethoric, and 2d, the delicate, irritable and hysterical. In the first variety there is headache, tremor and weight about the brain, a florid countenance, torpor, lassitude, pains in the back and loins, a full and generally slow pulse. Uterine congestion so active as to prevent the secretion of the menstrual fluid, is considered as the most frequent cause. And this may be induced by exposure to cold.

Treatment. If there is evidence of congestion of some of the more important organs, as the brain, the lungs, or liver, general bleeding, with active cathartics, must be resorted to: under other circumstances, local bleeding, with active cathartics and revulsion, may be sufficient. It is seldom that emmenagogues are needed in this form of the disease, unless, from its long continuance, it has become chronic. Amenorrhœa after puberty, is fully established in delicate, irritable and hysterical females. The treatment recommended is the same as that for chlorosis complicated with amenorrhœa.

Amenorrhœa of suppression. There are two varieties. 1. Recent and acute. 2. Chronic suppression. In acute suppression, if symptoms of inflammation supervene, active depletion must be resorted to; regulating the amount and repetition by the constitution of the patient. Caution is necessary not to mistake symptoms of irritation for inflammation; in the latter case, mild cathartics, antispasmodic anodynes, the hip bath, and particularly anodyne injections should be resorted to. When the pain is severe, Doct. A. recommends a pill composed of two or three grs. of camphor and two of antimonial powder.

Chronic suppression may result from an acute attack, or may gradually supervene from other causes. Many of the slight irregularities will be removed by time without resort to medicine. "If, therefore, the health does not suffer from the absence of the discharge, the cure may be safely left to nature, except where there is excessive leucorrhœa, which so rapidly impairs the strength that it is proper at once to attempt the removal of the suppression."

"It has been already remarked, that debility is not the sole cause

of absent menstruation; and it is peculiarly necessary in protracted suppression, before entering upon the use of stimulating remedies, clearly to ascertain whether there is not congestion or latent inflammation of the uterus and its appendages." P. 61. In the cases of inflammation or engorgement, depletion would be required. In debility, tonics and stimulants.

The author seems to doubt whether there are any medicinal agents that operate as specific stimulants of the uterine secretion; still there are a number of agents that indirectly tend to effect the same object. Emmenagogues are divided, 1. into local or immediate, and 2. Constitutional. Of the first class are electricity, galvanism, the application of leeches to the os and cervix uteri, stimulating injections into the vagina and rectum. Stimulants have been injected into the uterus, but Doct. A. considers them a hazardous remedy, and never now resorts to them except in severe cases of uterine hæmorrhage. Of the second class, mercury is considered the most efficient. It is not to be used in slight cases, nor where there is extreme exhaustion, or predominant irritability, or a tendency to phthisical or strumous disease. But in obstinate amenorrhœa, where other treatment has failed, where there is chronic inflammation or permanent congestion, and any evidence of incipient structural change, there is no remedy comparable to this.

Iron, in its various forms, is considered a valuable emmenagogue. Of ergot, as a valuable emmenagogue, he says, "I cannot speak favorably." Iodine is occasionally a good emmenagogue. Strychnine has been tried without much success. Of madder he has not had much experience, and rue is seldom used. Savin is a suitable stimulant where there is feeble and languid circulation, but injurious where there is plethora and irritation. Snake root and black hellebore are considered as deobstruents, but not entitled to more than a passing notice. Nitre is considered a decided emmenagogue. Of the emmenagogue cathartics, aloes is considered the most important.

Vicarious Menstruation. This cannot be considered a very rare affection. When it produces neither exhaustion nor derangement of the health, it can scarce be considered a disease. It is most frequent in the unmarried; and when it occurs in married women, they are usually barren. The discharge is usually sanguineous, occasionally leucorrhœal. The most frequent seat of the discharge is the pulmonary and intestinal mucous membrane, but occasionally the nipples, the ears, the gums, the umbilicus, the axillæ and bladder, or any portion of the skin or mucous membrane, may be the seat. It seldom observes the regularity of the menstrual discharge; is occasionally preceded by slight pain of the part, and is not attended with danger. The treatment must be regulated according to circumstances, as in cases of suppression. Vicarious leucorrhœa is most frequent in delicate females, or those exhausted from any cause. It is, in fact, suppression with leucorrhœa, as the discharge is mucous and not sanguineous. Good air, exercise, nutritious diet, and tonics are usually necessary. The tinct. cantharides is strongly recommended by Doct. Dewees, and will often be found useful in this form of amenorrhœa.

Dysmenorrhœa. This "is an important disease. It is very common, and produces extreme suffering. It often prevents conception, and if pregnancy has occurred during its continuance, the patient is exposed to the risk of abortion. Although not in itself a fatal malady, yet it admits of proof that malignant disease has followed its protracted existence; and

lastly, it is exceedingly difficult to cure." P. 80. Doct. A. divides the disease into the "irritable or neuralgic," and the plethoric. The first occurs independently of inflammation or congestion, and is considered purely nervous. The congestive form, Doct. A. thinks, is not unfrequently produced by the improper use of emmenagogues. Mackintosh and several others attribute the disease to mechanical obstruction. Doct. A. sometimes found a partial closure of the os, but its removal would not always cure the disease. Long continuance of the disease, particularly the congestive form, may produce thickening of the mucous membrane, and this produce the closure, which has, by some, been considered the cause of the disease. Doct. A. recommends that, in all difficult and protracted cases, a careful examination should be made.

Diagnosis. It is only in cases of suspected abortion that difficulty can exist.

Pathology. This is a vexed question: some authors considering it purely nervous, others that it is inflammatory. Our author believes that either of these states may exist.

Prognosis. The disease itself is never fatal, and, however great the suffering, so long as there are no indications of structural disease supervening, the prognosis must be favorable.

Treatment. "This is necessarily different." "There are, however, in the treatment of every variety, two principal indications: to alleviate the urgent pain of the menstrual period, and to employ, during the intervals of the discharge, such remedies as shall restore to the uterus its healthy secretory powers." P. 88.

In the more common or neuralgic form, the mustard hip bath of the temperature of 96 or 98, should be used on the accession of pain, continued half or three quarters of an hour, and repeated two or three times a day; when the pain is severe, half a grain of ipecacuana or fifteen or twenty drops of antimonial wine may be given. "Camphor, ipecacuana and hyosciamus; Dover's powder; the extract of hop, lettuce, conium, belladonna variously combined, relieve the pain and induce perspiration." P. 86.

When there is reason to believe there is an effort of the uterus to expel a coagula, ergot should be administered. In the inflammatory and congestive form local bleeding is demanded, and in some cases small general bleedings may be necessary. During the interval, every means should be resorted to, to improve the general health, by diet, exercise, &c., and in the neuralgic form, tonics. Dr. Ashwell has tried the tinct. of guiac as recommended by Dr. Dewees, but without much success. In the congestive and inflammatory variety, occasional bleeding is necessary, while great caution is used in the administration of tonics.

When structural changes are apprehended mercury must be used, and when the os and cervix are thickened and indurated, the iodine ointment should be resorted to.

Menorrhagia. Under this head, Dr. A. embraces both profuse menstruation and hæmorrhage from the uterus, occurring at the menstrual periods and without pregnancy. There are two forms: 1st. "Profuse menstruation as to frequency of return, or the amount of the secretion, or both, without uterine bleeding." 2d. Profuse menstruation with loss of blood. The second is divided into, 1st, acute or active, 2d, passive or chronic, 3d, congestive.

Women differ so much as to the amount of the menstrual discharge

that mere quantity can scarcely determine the question as to its being profuse, but this must depend upon circumstances, particularly the effect upon the general health. *Causes.* Either delicacy and debility, or undue plethora, may conduce to the disease. In married life repeated labors and abortions, as well as all undue excitement of the genital organs, may lead to this or the other forms of menorrhagia.

Diagnosis. It is distinguished from menorrhagia with loss of blood, and from hæmorrhage attendant upon abortion by the absence of coagula.

Treatment. This must be varied; in plethoric and robust persons the discharge may be salutary, if treatment is necessary moderate v. s. previous to the expected return of the discharge; local depletion by cupping or leeches; saline cathartics, with sul. acid; nitre, &c., with a horizontal position, cold drinks and light food. During the interval regular exercise, or light diet, occasional saline cathartics, and an avoidance of all exciting causes.

In delicate and feeble patients an opposite course must be adopted during the flow; rest in a horizontal position; the internal exhibition of acetate of lead and opium, ergot, and the application of cold externally, or by injections into the vagina or rectum. During the interval such measures as will tend to invigorate the system.

Profuse Menstruation with a discharge of blood. 1. Acute or active; occurring in the plethoric and robust. In this form the menstrual periods are usually preceded by more or less febrile symptoms, with pains in the back and region of the uterus. If there is inflammation the pain will be constant; if spasmodic, the pain will return at irregular intervals. The treatment should be the same as for excessive menorrhagia, accompanied by plethora.

2. *Passive or chronic Menorrhagia.* This is much the most frequent form. *Causes.* The same as profuse menstruation.

Treatment. In addition to those means recommended for profuse menstruation, injections into the uterus have been recommended, but this is considered a hazardous remedy. Plugging the vagina, and if necessary filling it to the os uteri, and firm pressure on the pudenda, should always be resorted to in extreme cases.

3. *Congestive Menorrhagia.* Most frequent in middle life. It possesses characters differing from the other forms of menorrhagia, and may occur either in the plethoric or in the feeble and delicate. The periods of the attack are usually preceded by a sense of weight and fullness in the region of the uterus, sometimes coldness of the hands and feet, and often pain in the uterus, giving rise to apprehensions of organic disease. If the uterus be examined it will be found somewhat enlarged, and in a state of congestion. Dr. Churchill has observed that it is frequently attended with dysuria. *Treatment.* In the plethoric, moderate general and local bleeding, perfect rest during the flow, cold injections, &c.

Dr. A. thinks that avoidance of sexual intercourse, and a consequent congestion of the uterus, is not an unfrequent cause of this form of menorrhagia in married women.

Leucorrhœa. Dr. Ashwell makes three forms of this disease. 1. The common leucorrhœa, often mild, sometimes acute. 2. Inveterate and chronic leucorrhœa. 3. The symptomatic. "Of all the diseases peculiar to the sex there is none so common. Few married women, particularly if they are mothers, escape its attacks."

Dr. A. thinks it may arise from the uterus, from the glands about the neck of the uterus, or from the vagina. He considers "its mildest acute form as the result of hyperæmia or vascular congestion, whether it affects one only or all the parts." "Often in common leucorrhœa, I have examined by the vagina, but without discovering more than a trifling increase of the body of the uterus, some tenderness of the cervix in the inflammatory forms, but none in the protracted or chronic variety. The state of the cervix is occasionally soft, and the os rather patulous." P. 124. In the first form, if under the idea of its being a weakness, tonic and stimulant injections are early exhibited, the discharge will probably become more excessive, purulent, or muco-purulent, thin, watery or ichorous, and the constitutional effects more aggravated. If, on the contrary, antiphlogistic and soothing treatment be adopted, the morbid secretion will diminish in quantity and the general derangement will disappear." P. 125. In some cases the disease readily yields; in others it is protracted and passes into the chronic form. In women who are full and plethoric, caution is necessary not to stop the discharge suddenly without previous evacuation, lest apoplexy or inflammation of some important organ should supervene.

2. *Chronic and aggravated Leucorrhœa.* In this form, the cure of the disease is often difficult and protracted.

3. *The symptomatic Leucorrhœa.* In this variety the symptoms will be nearly the same as in the preceding varieties; hence the necessity of a careful investigation of the case.

Pathology. "There can be no doubt that leucorrhœa owes its origin to two distinct and dissimilar conditions. The first a state of hyperæmia, or increased action of the vessels of the secretory surface; and the second debility, either original or produced by the continuance of the former state." P. 131.

The "diagnosis is sometimes difficult and particularly from gonorrhœa, where circumstances lead us to suspect the latter disease. The character of the parties, the history of the disease, the appearance of the discharge, and particularly the condition of the parts, must all be taken into consideration."

Treatment. This must of necessity be different. The various forms of the malady differ so widely from each other in degree, that, whilst in the slight, scarce any treatment at all is required, in the moderate, it is often most puzzling to find any remedy." In simple cases—rest, abstinence from intercourse (if married), animal food and wine, mild aperients, and the employment as a wash, of the liq. plumbi c. or the liq. alumen c., or the tepid poppy water, will usually in the course of a few days or a week cure the disease." In the inflammatory form, the antiphlogistic treatment must be at once commenced, and if by a vaginal examination the cervix is found swollen, shining red and tender, leeches or scarification may be used. "The hip bath, mild aperients, spare diet, salines and occasionally narcotics will be required; astringents should not be used until the inflammatory symptoms are subdued. These acute symptoms soon subside, but the excessive discharge continues, and at this point the use of astringent injections must be commenced. For this purpose, various astringent injections are employed, and by these means aided by tonics, mild aperients, rest and sponging the genitals, this affection is often cured. In obstinate cases, Dr. A. recommends an examination with the speculum. As an injection, the nitrate of silver, as

recommended by Dr. Jervis, is preferred. Turpentine and cantharides he has given, and many times "with curative effect."

Dr. Ashwell has an article on inflammation of the cervix uteri, a chapter on disorders attendant on the decline of the menses, and an excellent chapter on hysteria; but our limits are already too far extended to admit of further notice. We must therefore refer the reader to the work itself, which we would strongly commend to the favor of the profession.

C. B. C.

ART. IX.—*Manual of Orthopedic Surgery, being a Dissertation which obtained the Boylston Prize for* 1844, *on the following question: "In what cases and to what extent is the Division of Muscles, Tendons, or other parts proper for the relief of Deformity, or Lameness?"* By HENRY JACOB BIGELOW, M.D. Boston, 8vo. pp. 211, with plates, pp. 208. 1844.

A WORK on the subject of this Prize Essay has, for a long time, been a desideratum; and we are happy to find, from a careful examination of its pages, that it has been at length very satisfactorily supplied. It may perhaps be objected, that its materials are entirely drawn from foreign sources—chiefly the writings of Guerin, Bonnet, Velpeau and Little—while American Surgeons, Mott, Mutter, Detmold, Post, Watson, Dix, and others, who have written upon the subjects which pass under review, are neither quoted, nor alluded to, so far as we have observed, in any part of the Essay. The names of Barton, Gibson, and J. K. Rodgers are mentioned, it is true, in connection with *anchylosis*, but no account is given of their operations, and this whole subject is despatched in one short page. Surely the writings of Detmold and Mutter on club-foot, which have been quoted with approbation by the first surgeons of Europe, deserve honorable mention, equally with those of Velpeau and Guerin.

Strabismus.—The subject of strabismus occupies forty-five out of the two hundred pages, and is arranged under the following heads:—*Anatomical Considerations, Movements of the Eye, Functions of Muscles, Causes of Strabismus, Muscular Paralysis, Double Strabismus, Anatomical Peculiarities, Age, Operations, Appreciation of Different Methods, Exuberant Granulations, Subsequent Treatment of the Eye, do. of the Deformity, Bad Results of the Operation, Cicatrization of Parts, Dimness of Vision, Myopy, Diplopy, Kopiopy, Nystagmus, Statistics.*

Our limits do not allow any detail with respect to the contents of this work. It will be found an exceedingly useful manual both to the student, as well as practitioner of medicine. The subjects of *Stammering, Tenotomy, Club-Foot, Torticollis, False Anchylosis of the Knee-joint, Ricketty Knees, Permanent Flexion of the Hip-joint, Anchylosis, Lateral Curvature of the Spine, Contraction of the Hand and Fingers, Congenital Dislocations, &c., &c.*, are all treated of in a lucid and able manner, and altogether, we esteem it not undeserving of the mark of favor bestowed on it by the Boylston Committee.

ART. X.—*Principles and Illustrations of Pathological Anatomy: being a complete Series of Colored Lithographic Drawings.* By J. HOPE, M.D., F.R.S., &c. First American Edition. Edited by L. M. LAWSON, M.D., Prof. of General and Pathological Anatomy and Physiology in Transylvania University. Cincinnati: 1844, 4to., pp. 359.

Principles and Illustrations of Morbid Anatomy; adapted to the Elements of M. Andral, and to the Cyclopædia of Practical Medicine, being a complete Series of Colored Lithographic Drawings, from originals by the Author, with Descriptions and Summary Allusions to Cases, Symptoms, Treatment, &c., designed to constitute a complete Appendix to works on the Practice of Physic, and to facilitate the Study of Morbid Anatomy in connection with Symptoms. By J. HOPE, M.D., &c., Edited by L. M. LAWSON, M.D. Cincinnati: 1844.

THE appearance of this splendid work of Dr. Hope's, with all its beautifully colored engravings, from a city beyond the mountains, whose site but a few years since was an unbroken forest, furnishes a striking illustration of the progress of civilisation and science in our land. It is scarcely possible for us to keep pace with the periodical publications of the day, and entirely out of the question to notice them as they deserve; we must therefore be contented with their announcement, subjecting a few of the more valuable to analysis, or an enumeration of their contents. A good work on Pathological Anatomy, which could be afforded at a reasonable price, and with suitable illustrations, was a desideratum; for although we were in possession of the works of Andral, Horner, and Gross, yet they were deficient in plates and drawings, which are indispensable to a correct appreciation of morbid appearances.

This work of Dr. Hope treats of morbid changes in the brain, lungs, heart, liver, alimentary canal, kidneys, and uterus; of cancer, fungus hæmatodes, tumors of various kinds, &c., &c., the descriptions of all of which are accompanied by colored delineations, which convey to the mind images so distinct as to be retained with fidelity, until they can be impressed by comparison with nature. Once recognized as types of what has been seen, by occasional re-inspection they stamp the image in faithful and indelible colors. Dr. Hope has truly remarked that "the difficulties which beset the study of morbid anatomy are great. Prejudice circumscribes the sphere of the private practitioner, while the brief time in general spared by the student for hospital attendance, and the full occupation of that time by more immediately necessary studies, prevent him from making much progress during the period of his education. Should he attempt to improve his opportunities by reading, he finds that elaborate descriptions of morbid appearances present but indistinct images to his mind; these images, if not speedily embodied by a reference to nature, are evanescent; and when compared with nature, they often place him in perplexing doubt respecting their identity."

The plates are well executed, and the additions of the American editor are highly judicious and valuable.

ART. XI.—*A Summary of the Transactions of the College of Physicians of Philadelphia, from November and December*, 1844, *to March*, 1845.

THE contents of this pamphlet are varied and interesting. The first paper by Dr. Parish, being the "Annual Report on Surgery," gives a very lucid account of the gun-shot wounds that occurred during the riots, with practical remarks, &c. It appears that the total number of persons killed was 17; of whom the larger number died on the ground, or before medical aid could reach them; of those who survived the first shock of their injuries, or were not mortally injured, fourteen were conveyed to the Pennsylvania Hospital, and received the prompt aid of the Surgeons of that institution. Of these, the following is a brief description:

"It has been reserved for this fair city, once pre-eminent for the prevalence of good order, to furnish the most memorable example of a riotous outbreak which occurs in our country's annals; an outbreak attended with bloodshed, and the loss of human life.

"Aside from the contemplation of this dark page in our history, which, as republicans and Christians, we, in common with our fellow citizens generally, must sincerely deplore, it becomes our profession calmly to look back upon the scene of desolation through which we have passed, and to view it in its relations to the cause of science, and to questions affecting human life. Such a review, although it may elicit nothing new or extraordinary, cannot be without interest; and we shall therefore proceed to notice such cases, growing out of the riots, as we have been able to collect, without, of course, attempting a full account of the whole affair.

"1. The ball (apparently from a pistol) entered the left groin, and was found after death, loose in the cavity of the pelvis, having traversed the viscera without any apparent wound. Died of Peritonitis.

"2. The ball (rifle) entered the top of the left shoulder, penetrated the supra spinatus and infra spinatus muscles, the spine of the scapula, and came out below its inferior edge. After he left the Hospital, a considerable number of spiculæ of bone were discharged.

"3. The thumb was carried away by a ball. The first phalanx was fractured and afterwards removed.

"4. The ball (of a large size) entered the right groin, and passed out of the ischiatic foramen of the opposite side. He never fairly reacted.

"5. The ball (musket) entered the chest, one and a half inches inside and above the left nipple. It was extracted two inches to the left of the spine, and one inch above the inferior extremity of the scapula. Complete reaction took place two hours after his admission into the Hospital. No post-mortem examination was made.

"6. The ball (of a large size) entered three inches to the left of the umbilicus, and passed out at the same distance to the right. There was a protrusion of several feet of the small intestines. The wound was dilated and the intestines returned. He died of Peritonitis.

"7. This was a mere flesh wound, most probably from a musket ball.

"8. This also was a mere flesh wound.

"9. This was a flesh wound from a large ball. The cure was retarded by the inflammation extending down the fascia of the forearm.

"10. The slug entered the left groin, severing the femoral vessels, and passing out of the ischiatic foramen. He never reacted.

"11. The slug entered the left side of the chest, fracturing the second rib, close by the sternum, penetrated the upper portion of the lung, and lodged in the cavity of the chest.

"12. The bone was shattered by a canister or grape shot. The arm was amputated at the joint.

"13. The slug entered the front of the arm, passed through the axilla, inside of the vessels (they being thrown out by the raised position of the arm), and was extracted outside of the external edge of the scapula. He died from absorption of pus, his lungs being covered with metastatic abscesses.

"14. The ball (musket) passed through the right thigh without fracturing the bone, entered the left, and made a comminuted fracture of the os femoris. The ball was completely flattened against the bone, being afterwards extracted. He is now doing well, and has every prospect of having a good serviceable limb."

"It will be seen, by the foregoing table, that of the fourteen cases reported, seven died. The larger number were admitted on the evening of the 7th of July, during the battle between the mob and the soldiery, which occurred in Southwark; and from the contiguity of the Hospital to the scene of action, but little time elapsed before they were placed under surgical treatment. In several of the cases seen by your reporter, where the wounds were mortal, the patients were tormented with that intense and insatiable thirst which occurs in some forms of low fever, and in very prostrate conditions of the system, and which is noticed as amongst the most horrible torments on the field of battle; together with vomiting, and extreme jactitation and restlessness. In two of the cases, death occurred without reaction, while in several others, the patients lingered in a hopeless condition for several days. It was also remarked that the wounds by slugs were more severe and dangerous than those by balls—the slug being irregular in shape, and producing more extensive lacerations of the parts with which it comes in contact.

"Of the particular cases mentioned in the table, we would briefly refer to several, as presenting points of unusual interest. First—the case of Joseph Cox was remarkable from the fact, that a ball should have traversed the lower portion of the abdomen, without inflicting injury upon any of the viscera; and that the patient should have lived fifteen days with a ball lying in the cavity of the pelvis. It would seem probable, had the ball found an exit from the right side, without injuring any of the vessels, that this patient would have recovered, notwithstanding its passage through the abdomen.

"Both of the cases in which the cavity of the chest was penetrated, terminated fatally. In the case of Saunders (No. 5), the ball was extracted, after having passed through the left lung, judging from the direction which it took, although no post-mortem examination was permitted; this patient died on the second day after admission.

"In the other case, the wound was made by a slug, which was not removed, and the patient died on the fifth day after admission. It may be remarked that gunshot wounds of the thorax, in which the ball passes through one of the lungs and comes out on the opposite side, or even where it lodges in the cavity, are by no means *invariably* fatal. Many cases are on record of recovery after such accidents; and Dr. Godon, an intelligent surgeon recently attached to the United States Navy, informs me that several such recoveries fell under his personal observation while on a recent visit to Vera Cruz, and that the surgeons of that country state such results to be by no means uncommon. It is attributed by the South American surgeons to the remarkable salubrity of the atmosphere which prevails in that climate, and to the good constitution of those who meet with these accidents.

"It will be seen that but one case occurred requiring amputation, and that this was successful."

"We are indebted to Dr. Norris for some brief details of the following case:

"Among the wounded at the Kensington riots, the case of A. R. P. deserves notice, from the successful issue which followed speedy amputation. This individual received a slug wound on the evening of May 7th, while on the ground at Kensington. He was struck about the middle of the arm, the slug passing through the limb, with extensive laceration of the small parts, and producing a frightful comminuted fracture of the humerus; the bone being splintered so far up, as to make it necessary to amputate very near to the shoulder.

"The patient, who lived in the lower part of the city, did not reach home until late at night, and about midnight Dr. Norris saw him. He found him suffering extreme pain; much exhausted from loss of blood and from abstinence, as he had not eaten anything since morning. Amputation was immediately performed. No unpleasant symptoms followed, and Dr. N. ceased his attendance in about three weeks.

"A case which fell under the joint care of Dr. Remington and your reporter is especially worthy of record, from the fact of the perfect restoration of a limb after a pistol shot, which penetrated the thigh, and fractured the femur, just above the condyles.

"M. H., a stout muscular man, aged about 25 years, while marching in the ranks of a military company to the scene of the riots in Kensington, on the afternoon of the 8th of May, was shot by the accidental discharge of a six-barrelled revolving pistol, which dropped from the belt of an officer of the company, who was marching about twenty feet in the rear of him.

"The ball, passing between the men who were marching behind the patient, struck him upon the inside of the leg, while in the act of raising the limb to make a step. It entered just opposite the head of the tibia, a little below the knee joint, and passing obliquely upwards and outwards, it struck the os femoris about an inch and a half above its articulating surfaces, producing an irregular fracture, with lateral deformity and slight shortening of the limb; without, however, an entire separation of the bone, throughout the whole breadth. A ragged edge of bone could be felt under the skin on the outer edge of the thigh—and the patient suffered extreme pain from the least motion; no appearance of the ball could be detected.

"The treatment consisted in the application of Desault's splint, as in ordinary fracture of the femur. Tr. opii gtt. xx. were directed every four hours, or oftener if the pain was severe; and a lotion of lead water and laudanum was freely applied to the limb with wetted compresses. On the 9th, the limb was much tumefied and painful, although the patient had intervals of comfortable sleep, and was free from fever. One hundred American leeches were directed to the limb, and the lotion to be continued. On the 10th, the swelling had subsided, and the pain was less severe; he was directed a saline cathartic, and continuance of the other treatment. From this period no unusual symptom occurred, different from an ordinary case of fractured thigh.

"The parts traversed by the ball healed up without suppuration, and, at the end of two months, the patient was allowed to give slight motion to the limb. He recovered with a very slight limp, and experiences no other inconvenience at present, except that the limb is at times painful from changes in the weather. The ball has not yet been discovered. The favorable issue of this case is probably attributable, in a great measure, to the small size and smooth surface of the bullet, which is not larger than the largest sized buckshot; to the velocity with which it entered, and to the unusual thickness of the bone at this point. The patient, also, was young, of a remarkably fine constitution, and of temperate habits.

"The following case, furnished by Dr. Ashmead, has some points of resemblance to that just mentioned, while the result was equally gratifying.

"T. S., aged about 45 years, was wounded at the Southwark riot on the 7th of July. He was struck by a bullet on the outer and inferior edge of the patella, fracturing its lower half into four or five fragments, the upper half remaining entire. The ball wound around the head of the tibia, and came out at the edge of the popliteal space behind; then entered the internal surface of the left leg, passed through the gastrocnemii muscles, and emerged externally, without injury to the bones. The cavity of the right knee joint was, of course, opened. The patient immediately fell, although he experienced no pain; there was considerable hemorrhage from the wounds.

"Dr. Ashmead saw him in about five hours; he immediately dressed the wounds with lint, smeared with simple cerate, and over this a poultice, avoiding most carefully, throughout the treatment, the access of air to the cavity of the knee joint. The fractured limb was placed on a straight splint, and kept at per-

fect rest; and anodynes were ordered at short intervals. On the following day, the right limb was much tumefied, although without severe pain. The patient had twitchings in his sleep, tympanitis, loss of appetite, and general restlessness; and for ten days, the danger of tetanus appeared to be imminent. During this period, opium was freely administered, with stimuli and nutriment—and the patient escaped. After this he improved rapidly, and at the end of four weeks was able to sit up, and was allowed to give slight motion to the joint.

"When last seen, November 1st, he was allowed to have as free use of the limb as is usual after ordinary fracture of the patella—a firm ligamentous union having taken place between the fragments. The circuitous course of the ball, passing round the head of the tibia, and traversing a route of four or five inches without entering the joint, was remarkable—as was the recovery of the use of the limb to its present condition, without serious inflammation and stiffening of the joint."

We omit the remainder of this interesting paper. We next have an account of a "Case of Remittent Fever," by Dr. Condie; "a case of Luxation of the Femur into the foramen ovale," by Dr. Ashmead; "the Annual report on Meteorology and Epidemics," by Dr. Moore; "an obituary notice of Dr. John C. Otto," by Dr. Parish; "Annual Report of Diseases of Children," by Dr. Condie; from which we extract the following remarks on vaccination and Small Pox;

"The extent and duration of the *preservative influence of vaccination*, and the propriety and advantages of re-vaccination, continue still a subject of dispute among the physicians of the Continent.

"M. Bousquet, of Paris, is of opinion, that the efficiency of the vaccine virus becomes diminished by its transmission through a number of individuals; and, in support of this opinion, appeals to the fact, that the effects produced by the renovated virus introduced in 1836, were much severer than those which followed the insertion of the old matter. It is, however, a curious fact that the difference between the vesicle resulting from the new and that from the old virus, is not perceptible until the sixth or seventh day, by which time the preservative power of vaccination has been exerted—which is proved by the circumstance that a second vaccination after this period, does not produce any effect. Nevertheless, from the increased frequency of variolous and varioloid affections of late years, and from the fact that the greater number of those attacked with small pox subsequent to vaccination are adults, M. Bousquet is led to believe that a diminution in the activity of the vaccine virus does result from its repeated transmission through a number of individuals, and that the full preservative power of vaccination does not extend beyond a certain term of years, although its modifying powers continue throughout life. He advocates, therefore, the plan of re-vaccination. M. Gauthier de Claubry, on the other hand, maintains that there does not exist any ratio between the severity of the local effects of vaccination and its preservative power. He considers the severer symptoms which have followed the insertion of matter direct from the cow, merely as phenomena attendant upon the naturalization of cow pox in the human subject. When this has been once accomplished, the transmission of the virus through hundreds of individuals in no degree impairs its virtues, or modifies the character of the eruption to which it gives rise. In proof of this, he refers to the fact that, in some places, the same virus has been employed for twenty-five, thirty, or even forty years, and yet the character of the vesicle produced by it has continued unchanged during the whole period. No argument, M. de Claubry maintains, can be drawn from the occurrence of secondary small pox, since this takes place in persons who have had variola in the natural way—which he states to occur in one of every sixty-three of those who have been spontaneously variolated. M. de Claubry asserts, also, that varioloid eruptions were as frequent in the early days of vaccination as they are now, though their variolous character was not then apprehended; and he denies that such eruptions are confined to adults. He, finally, endeavors to weak-

en the positive evidence in favor of re-vaccination, by showing that varicella, varioloid eruptions, and even variola, have occurred in the Prussian army, among persons who had been vaccinated.

"In a recent communication from Dr. Gregory, Physician to the Small Pox Hospital of London, ten cases are noticed of death in children, from small pox occurring after vaccination. The ages of these ten children are as follows:—1 of 9 years; 1 of 8; 2 of 6; 1 of 5; 3 of 4; 1 of 3; and 1 of 6 months.

"In all these cases, it is stated by Dr. Gregory that the evidence of prior vaccination was such as to justify the Registrar in recording them as cases of fatal small pox after vaccination. The children were vaccinated in different localities, showing that the source of the vaccine imperfection was not local; while the respectability of the vaccinators, and the appearance of scars in eight of them, forbid the assumption of entire irregularity in the vaccine process.

"Now if ten deaths of children, from variola occurring after vaccination, are recorded in one year, is it not fair to presume that a much larger number of cases of varioloid eruption, which terminated favorably, occurred in children during the same period?

"Dr. Lossette, of Milan, has recently published a series of tables, one of which is given, to prove that the preservative powers of vaccination are temporary, and limited to a certain number of years. The table includes 1411 cases of small pox after vaccination, observed during the years 1837 and 1838. Of these 1411 cases,

130,	or	9.21	per cent.,	occurred	in	patients	under 5	years of age.
101,	or	7.15	"	"	"	from 5 to 10	"	"
151,	or	10.7	"	"	"	" 10 to 15	"	"
203,	or	14.31	"	"	"	" 15 to 20	"	"
282,	or	14.9	"	"	"	" 20 to 25	"	"
216,	or	15.3	"	"	"	" 25 to 30	"	"
160,	or	11.33	"	"	"	" 30 to 35	"	"
63,	or	4.8	"	"	"	" 35 to 40	"	"

"This table is defective, inasmuch as no statement is made of the ages at which the patients were vaccinated.

"M. Lossette has likewise endeavored to ascertain, by actual observation, whether there existed any relation between the appearance of the vaccine cicatrix and its preservative power. With that view, having examined 420 individuals affected with small pox subsequent to vaccination, he classed the cicatrices they presented, according to their physical characters, into, 1st, normal; 2d, imperfect; and, 3d, very imperfect. Of the 420 patients, 231, or 55 per cent., had normal cicatrices; 124, or 29.5 per cent., incomplete; and only 65, or 15.47 per cent., very imperfect. From this, it appears that the most regular cicatrices offer no certain guarantee against an attack of variola.

"The next inquiry was to ascertain whether a normal cicatrix renders the consecutive small pox less violent in its character; which resulted in the negative, as will appear by the following table:

Cicatrix,	normal,	83	cases	confluent,	91	discrete,	57	very discrete.
"	imperfect,	53	"	"	49	"	22	" "
"	very imp't,	18	"	"	28	"	19	" "

"The next inquiry was to ascertain whether the number of vaccine pustules afforded any assurance of protection. The result is shown by the following table:

1 cicatrix,	30	cases	confluent,	30	discrete,	16	very discrete.
2 cicatrices,	36	"	"	35	"	22	" "
3 "	40	"	"	38	"	20	" "
4 and more cicatrices,	48	"	"	65	"	40	" "

"Dr. Kahlert, of Pragne, has performed the experiment of passing the vaccine virus taken from the human subject, through the cow, with a view to augment its activity. The retro-vaccine virus thus obtained, produced, when inserted in the arms of children, well marked vaccine vesicles, unattended by any peculiarly severe constitutional symptoms."

ART. XII.—*A Familiar Explanation of the Nature, Advantages and Importance of Assurance upon Lives, and the various purposes to which they may be applied, etc.* By LEWIS POCOCK, F. S. A. London: 1844. *Prospectus of the Mutual Benefit Life Insurance Company.* New York: 1845.

AMONG the various applications of science to the necessities of mankind, there is none, perhaps, which has made more important and substantial progress than that which forms the subject of the works at the head of this article. When first attempted, life insurance was effected without any data whatever whereon to found a calculation—without even a guide in the form of an estimate of the probable certainty of the duration of life at a given period. An effort was made in London, more than a century ago, to provide, at death, for the families of such as placed in common stock a small annual sum, without estimating the prospect that any had of living a longer or shorter time; and thus the vigorous man, in the possession of full health, was placed on an equality with the hoary-headed sire, and the same payment from each would secure the stipulated amount at the time of decease. It was evident, however, that the one whose prospect of living was comparatively long, was taxed for the benefit of the other, whose "life was, as it were, a span long;" and an attempt was made to cause a more equitable rate of premium to be assessed among the applicants, founded upon the probable duration of life at different ages. This calculation became the foundation of insurance, and has been continually corrected and improved until it has arrived at its present state of accuracy, enabling the contractors for insurance to divide a designated amount of profits during life, besides paying the amount agreed upon at the period of death.

We have not unfrequently heard the question asked, when reading the results of some toilsome votary of science pursuing his investigations in the statistics of life, What is the object of all this? Why waste the time and energies of life upon matters which are of so little practical utility? The almost perfect state of the science of Life Insurance will give the answer to these queries; for it is to the continued labors of scientific men, that a gradual improvement in the construction of tables of mortality has been made. The improvement has been slow—just in proportion to the difficulties of the task. The abstract nature of the doctrine of probabilities, the rate of mortality, the comparative duration of life and of an equitable premium to be paid upon an assurance of it, at every different age, and under every variety of circumstances, would very naturally deter many from undertaking the task; none but such as had acquired a taste for such pursuits by professional occupation or by their previous study, would attempt its elucidation. But from these causes, there are, perhaps,

scarcely any subjects which have been treated with such an uniform degree of talent; all the works that have been written having some part of the science more carefully enlarged, or more perspicuously explained, than it had been by preceding authors.

The duration of life in individuals is indeed a matter of uncertainty; yet nothing is more certain than its average duration in the aggregate. Life insurance is founded upon the simple fact that every individual has a certain average term of existence at each period of life, which term has been ascertained by close observation and careful calculation, abundantly borne out by experience. Like the chance of destruction of property by fire or on the seas, the duration of life, in single instances, is of very great uncertainty; but when the calculation is made upon a wide and general view of the occurrence, it is found, like other events which are considered purely accidental and fortuitous, to have certain relations, and to be governed by certain laws. Thus, the number of births, marriages and deaths, the relative proportion of the sexes, have a uniformity with the number of houses destroyed by fire, or of any other casualties under similar circumstances, and which are found to be nearly equal during equal periods of time. The average duration of human life at all ages is formed from observations among larger masses of mankind during an extended period of time; such observations constituting the materials, or data, necessary for constructing what are technically termed tables of mortality.

The work of Mr. Pocock contains an account of the mode of transacting business of about eighty different Life Insurance Companies, all founded upon the same unerring principles, but many differing in their mode of carrying out the details, principally in the method of dividing the profits. Some pay them to the stockholders, others divide them in different modes, either by actual cash payments or by applying them to the credit of the individuals insured, and thus reduce the amount to be paid upon the premiums until ultimately no more payment is required—as agreed upon by the parties to the contract.

From the Prospectus of the Mutual Benefit Life Insurance Company of New York, it appears that a careful digest of these different modes of effecting the same object has been made, and that course adopted which is most decidedly for the benefit of those insured; a principal feature of which is that but a small part of the premium is required in cash; thus giving all possible advantage to persons taking out policies; while all thus united have a *joint* and mutual interest both in its profits and its management. Founded on scientific principles, exemplified by experience, its real services to all classes of persons, who are dependent on salaries or professional labor, have proved essentially beneficial to the families of such in the event of death, and this species of mutual insurance ranks among the noblest works of benevolence in the world.

To our professional brethren we cannot too strongly recommend Life Insurance as the best method of providing for a family in the event of the death of its head. Whilst a man enjoys health, he looks forward, often indeed, with too great confidence, to being able with ordinary success in business, to provide something for his family at the distant period at which he calculates on being taken from them; but he is unexpectedly seized with sickness, and although he may recover, yet the probability that he may be brought by it prematurely to his grave, fills his mind with anguish on seeing the helpless and unprovided condition in which his

family will be left. Indeed, whether we consider the condition of a man who desires to leave a little property behind him—to arise out of his yearly savings; or who, having saved some money, and no longer has the means of increasing his savings, is anxious to make as much as he can of it, to provide for comforts in his declining years by annuity; or who can spare something from his annual income to purchase an endowment for a child: where can he find so advantageous a means of accomplishing either of those objects, as in a well conducted establishment for Life Insurance.

ART. XIII.—*Mental Maladies. A Treatise on Insanity.* By E. ESQUIROL, &c. Translated from the French, with Additions. By E. K. HUNT, M.D. Philadelphia: 1845. 8vo., pp. 496.

WE congratulate the profession, on having placed within their reach, the great work of Esquirol on Insanity—the result of forty years' study and observation. No man ever watched, with greater care, the symptoms of insanity, or more successfully studied the manners, habits, and wants of the insane, than Esquirol. Living among them all his days, he consecrated his life to their service, and to the cause of enlightened humanity.

The work is composed of materials collected at the Salpêtrière, at the Hospital at Charenton, and in his private practice, and which have been previously published in the Dictionary of the Medical Sciences, and other medical works.

The work is destined to occupy the front rank among similar treatises on Mental Diseases. The version is faithful and elegant, and the accomplished translator has made some judicious and useful additions; altogether, we know no publication of the kind more worthy of general adoption and circulation than this. We hope to be able, hereafter, to give a more particular account of its contents.

ART. XIV.—*Remarks on certain topics connected with the general subject of Slavery.* By S. HENRY DICKSON, M.D. Charleston, S. C. 1845. 8vo., pp. 35.

WE have received from the estimable author, a copy of a pamphlet with the above title, which we have carefully examined. Although many of the writer's positions are undoubtedly sound, there are others, which, with our present views, we should be unable to subscribe to, and which, we believe, may be shown to be untenable.

That all mankind may have descended from a single pair, we hold to be demonstrable by known laws and facts in physiology. Prichard has conclusively shown that tribes of domesticated animals, that have been carried into countries where a different climate prevailed from that to which they were accustomed, undergo great variations partly from the agency of climate and partly from the change of external circumstances,

connected with the state of domesticity. That these variations extend to considerable modifications in external properties, color, the nature of the integument and of its covering, whether hair or wool; the structure of limbs and the proportional size of parts; that they likewise involve certain physiological changes or variations as to the laws of the animal economy; and, lastly, certain psychological alterations or changes in the instincts, habits, and powers of perception and intellect. He has shown that these last changes, in some cases, are brought about by training, and that the progeny acquires an aptitude to certain habits which the parents have been taught; that psychical characters, such as new instincts, have been developed in breeds by cultivation, and also that these varieties are sometimes permanently fixed in the breed so long as it remains unmixed. He has likewise proved, that all such variations are possible only to a limited extent, and always with the preservation of a particular type, which is that of the species; that each species has a definite or definable character, comprising certain undeviating phenomena of external structure, and likewise constant or unchangeable characteristics in the laws of its animal economy and its psychological nature; and that it is only within these limits that deviations are produced by external circumstances.

Now it is obvious, as Prichard remarks,* that races of men are subjected, more than almost any race of animals, to the varied agencies of climate, and that civilisation produces even greater changes in their condition than does domestication in the inferior tribes. And if this be so, we may expect to find fully as great diversities in the races of men, as in any of the domesticated tribes. "The influence of the mind," says this writer, "must be more extensive and powerful in its operations upon human beings than upon brutes. And this difference transcends all analogy or comparison. *A priori*, we might expect to discover in the psychological characters of human races changes, similar in kind, but infinitely greater in degree." Without expressly denying the unity of the human race, the remarks of Dr. Dickson evidently show that he does not believe in it, and the writings of Dr. Prichard are spoken of as "of the nature of special pleading." "He is an advocate," says Dr. D., "anxious, not to discover truth, but to maintain an opinion." With all due deference, we are compelled to believe such a charge entirely inapplicable to Dr. P. His works are as fine an example of inductive reasoning as we have ever read: indeed, they are made up of facts, the inferences thence deduced, in the form of distinct propositions, of which we have given an example above, constituting but a few paragraphs. Mr. P. has, it is true, some cutting remarks in reference to the opinions of those who reject the testimony of the Scripture, that it pleased the Almighty Creator to make of one blood all the nations of the earth, and that all mankind are the offspring of common parents. We know that the opinion is very prevalent, or has been in this country, that the negro is inferior in his original endowment to the human family which supplied Europe and Asia with inhabitants; that he is organically different, and cannot be raised to an equality, in moral and intellectual powers, with the offspring of that race which displays in the highest degree all the attributes of humanity—a man may hold to such views, and still deny that the ultimate lot of the ruder tribes is a state of perpetual servitude. But how any one can believe, as is seriously main-

* Researches into the Natural History of Man.

tained by a southern physician, that the mulatto is a *hybrid*, exceeds our powers of understanding. We had supposed that *hybrids*, whether animal or vegetable, were incapable of re-production! If we are not mistaken, Professor Wagner has shown in his Physiology, that nature has established the sterility of hybrid animals by a really organic impediment. Facts and analogical reasoning conclusively prove, that distinct races of men must either be incapable of intermixing their stock, or if not, that they belong to the same species.

ART. XV.—*On the Anatomy and Diseases of the Urinary and Sexual Organs, containing the anatomy of the Bladder and of the urethra and the treatment of the obstructions to which these passages are liable.* By G. J. GUTHRIE, F.R.S. Phil., 1845.

THIS is one of the best monographs we have ever seen on the diseases of the urinary and sexual organs. It treats fully of the "*Stricture of the Bladder and Urethra; on the formation of the spasmodic and prominent stricture; the symptoms and means of cure of stricture; the treatment of impassible stricture; on suppression and retention of urine, and on irritation of the membranous and prostatic parts of the urethra.*" The well known character of the author as a practitioner and lecturer on surgical diseases, is too well known to render any commendation of the work necessary at our hands.

ART. XVI.—*A Practical Inquiry into the value of Medicinal Naptha in Tubercular Phthisis.* By G. O. HOCKEN, M.D., London. 1844. 8vo., pp. 72.

THAT patients occasionally recover from tubercular disease of the lungs, we have no doubt whatever, for this is abundantly established by pathological anatomy—that they are ever cured by *drugs*, we are yet to be convinced, notwithstanding the boasts of empirics, and the pretended power of such specifics as Mr. Hocken brings forward. If this disease ever becomes directly amenable to the resources of our art, we believe it will be the result of a more accurate acquaintance with the laws of healthy and diseased nutrition, the causes which modify it, and the conditions necessary for its healthy maintenance; we must acquire a more perfect knowledge of the laws of assimilation, of the processes by which normal structure is built up, and the changes in the vital fluid from malnutrition, which result, unless checked by counter influences. Then we may not only hope to prevent the formation of tubercular matter, but even to effect its removal, when deposited in the different tissues. When we find for example the globules of the blood always diminished in the very commencement of pulmonary tuberculization, being far below their physiological average, and this too before auscultation and percussion disclose any signs of hidden mischief, we are furnished with a most valuable fact in relation to the conditions under which tubercular deposits take place, and a very significant hint as to the choice and application of modes of treatment. Without supposing that a decrease of the globules

is a cause of the formation of tubercles, for there are other elements which enter into the causation of this morbid product, which we have not time to consider here; we mention this merely to illustrate the advantages which we may expect to flow from the cultivation of pathological chemistry, and to indicate the path in which we are to travel to arrive at the curability of this as well as many other diseases. As for ourselves, we place no confidence (in the treatment of this disease) in *cod-liver oil; naptha; chlorine or iodine inhalations; mercury; hydrocyanic-acid; creosote; iodide of iron and potassa; digitalis; sal ammoniæ; common salt; chloride of lime; tar-vapor; the production of emphysema by forced respiration; cupping, bleeding and leeching; blisters, setons and tartar emetic plasters; daily emetics; sarsaparilla; hydropathy; homœopathy; puncturing the chest;* or any of the other thousand experiments and specifics that have been brought forward from time to time, to be talked about, and written about—a seven days' marvel—then to be laid aside and forgotten. True science does not point, as it seems to us, in this direction. The human body, with its complicated structure and wonderful functions, is not a piece of machinery, whose movements, when irregular or deranged, are to be regulated by inhaling an unnatural vapor, or swallowing a positive poison, no matter how its operation is to be explained, whether *dynamically*, or by the "*similia similibus*," or "*contraria contrariis*" *principle*. We regret that we cannot acquiesce in his conclusions, for they are at variance with well known facts in pathology. If there is any one principle established by the investigations of modern pathologists, it is the difficulty, if not absolute impossibility of demonstrating the presence of tubercles in their early and forming stage; and yet Mr. Hocken ventures to pronounce with absolute certainty on their existence, and that too after the most superficial examination.

His cases present a most surprising uniformity different from anything we have ever met with in this disease, and, we had almost said, different from anything that ever occurred in nature; any one at all acquainted with practical auscultation knows that the expiration may be prolonged, and the voice more resonant at the right than at the left side, and there be no disease present; and yet Mr. H. sets this down as positive proof of the existence of tubercles. There is no satisfactory evidence to us, that any of Mr. H.'s patients had tubercles in the lungs; some of them probably had bronchitis; and counter irritation, and other remedies, were employed besides the naptha—most of the cases moreover occurred late in winter, and of course were likely to improve as the weather grew warmer. We need not add that we have no confidence whatever in naptha, any more than in the farrago of medicines already enumerated.

ART. XVII.—*Elementary Instruction in Chemical Analysis.* By C. R. FRESENIUS, Chemical Assistant in the Laboratory of the University of Giessen: with a Preface by Professor Liebig. Edited by J. L. BULLOCK. New York: D. Appleton, 1844. 12mo. pp. 285.

THIS work, prepared by Liebig's assistant, and under his particular direction, is one of the best manuals for the use of students and pharmaceutical chemists that has hitherto been published. Many new and simplified

methods of analysis are given which commend the work especially to all who are anxious of obtaining instruction in inorganic analysis. The work has already gone through several editions in Germany, and deserves equal popularity in our own country. No physician at the present day can practise his profession successfully and understandingly, who does not pay more or less attention to the details of chemical analysis, and he can have no better guide than this manual of Dr. Fresenius.

ART. XVIII.—*The Philosophy of the Moving Powers of the Blood.* By G. CALVERT HOLLAND, M.D., Physician Extraordinary to the Sheffield Infirmary, &c., &c. London: 1844. 8vo. pp. 308.

THIS very philosophical disquisition on the moving powers of the circulation, which has been kindly forwarded to us by the ingenious author, displays a most intimate knowledge of all that has been written on the subject, and evinces a mind peculiarly adapted for investigation of a physiological kind. The essay is not designed as a complete treatise on the circulation, but rather as a criticism upon the different views and theories which have been advanced by the later writers on this topic. Every enlightened physiologist, we think, must agree with the author in opinion, that the capillary circulation possesses a force independent of the heart's action; but those who wish to see the whole matter discussed in an extensive and truly philosophical manner, must consult the work itself.

ART. XIX.—*Outlines of the Institutes of Medicine, founded on the Philosophy of the Human Economy in Health and Disease.* In three parts. By JOSEPH A. GALLUP, M.D., &c. 2d Edit. Revised. 2 vols. New York: 1845. 8vo.

OUR notice of the new edition of this work must necessarily be short. The following extract from the introduction, from the pen of Dr. Francis, will show in what estimation the work is held by the writer.

"Not only does the work of Dr. Gallup abound in valuable aphorisms and facts for immediate guidance, but also in suggestions of moment, which, by attention and thought, may be matured into useful practices.

"Alike clear of an affectation of the reconditeness of mere antiquity, and of the fashions of the European schools, the author shows himself to be an eclectic who reasons on, and explains the wisdom of his choice. Amidst many positive merits, we care not to point out occasional omissions of matter, as well as defects of style, which, after all, interpose little difficulty in the way of our understanding the author's meaning and reach of argument. The work is for sale by Collins & Brothers, Pearl Street."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *On the Maturation and Extrusion of Ova.* By Prof. Bischoff, of Giessen. —It is well known that the function of menstruation in the human female was long ago and frequently compared with "the heat" in animals. Some of the most intelligent physicians and naturalists of various periods have adopted this opinion, although it was contended against by others no less celebrated than themselves. Regarding Burdach as the most important of the latter class, the only argument of all those brought forward by him which seems to me to have any weight is that in which he draws attention to the important distinction existing between "the heat" and menstruation, in respect to sexual impulse and copulation. The beast copulates *only* during "the heat;" man, on the contrary, always feels himself repelled from the female during menstruation. If this were correct, I should also be of the opinion that it involved an essential distinction. But attentive observers have previously remarked, and I can only confirm it, that such a distinction is altogether wanting, for the female of animals also manifests, at the commencement of "the heat," a condition of sickliness, during which it altogether refuses to permit coitus to be effected. It seeks that act for the first time only when the phenomena attendant upon "the heat" have reached a certain stage of development. It is, however, also well known that a sensation of unusual good health comes on, and the sexual impulse especially manifests itself in the human female, on the passing off of menstruation, and it seems to me, therefore, that the most complete accordance occurs here, and that all the arguments which have been brought forward in favor of the analogy between "the heat" and menstruation are rather strengthened than otherwise. A repetition of the arguments here would be superfluous.

All intelligent anatomists, physiologists, and physicians, have long since been convinced that the cause of menstruation, as well as that of the sexual impulse, and of the whole female character, is to be sought for in the ovaries. But that the uterus on the other hand,—although it be the organ in which the characteristics of classes and species are most especially manifested, in so far as regards the genital organs,—yet, in the above respect, has but a secondary importance. Numerous pathological facts of the most diverse description, and primary deviations from the natural formation, exhibit most constant accordance with this view. I shall quote only one such instance here; it is from a recent and almost unknown source of information upon castrated females, communicated by Dr. Roberts, in a work descriptive of a journey from Delhi to Bombay. The persons examined by him were twenty-five years of age, large, muscular, and perfectly healthy. They had no breasts, no nipples, and no hair on the pubes. The vagina was completely closed, and the arch of the pubis so narrow that the ascending ramus of the ischium, and the descending ramus of the pubes, were almost in contact. There was no deposition of fat about the neighborhood of the genital organs, nor were the nates more developed than in man, whilst the rest of the body was well provided with fat. There was not a trace of menstrual secretion, nor anything which might supply its place; there was also no sexual impulse.

Anatomy has also recently furnished direct proofs in favor of the views advanced in this essay. Surprising as it seemed at first, from the endless contro-

versies carried on respecting the corpora lutea, there is now no longer any doubt of the fact that, at each return of the function of menstruation, the ovary takes on a condition of increased activity, that a Graafian vesicle becomes considerably developed, and bursts, and that a corpus luteum is formed in its place. The researches of R. Lee, Paterson, William Jones, Negrier, Gendrin, Raciborsky, and Pouchet, leave no room for doubt on this point. It would occupy too much space to repeat their observations here: I will only mention, that I have myself had the opportunity of making four observations which bear upon this part of our subject, all occurring in young and healthy persons, three of whom met their deaths by drowning, and the fourth died very suddenly. I found indubitable appearances of menstruation in all of them; on the ovaries of three of them a Graafian vesicle which had burst and was filled with blood, and on the fourth an enormously swollen one which had a diameter of seven lines. I learnt afterwards quite decidedly with respect to one of these instances, that menstruation was going on at the time when she met her death.

I have just received intelligence from Dr. Ecker, of Heidelberg, that he had found a Graafian vesicle which had burst, and was filled with a recent coagulum, in the body of a person aged 25, who had lately been executed there, and in whom menstruation had been present twelve days before death. He examined the tube with great care in search of an ovum, but in vain, probably because it had by that time undergone dissolution. Besides, in my opinion, the human ovum may be classed amongst the most difficult of all tubal ova to discover, in consequence of the slight density of its yolk, and the vaguely defined outlines of its zona.

It is therefore not to be wondered at, that numerous earlier observers—Valisneri, Santorini, Roederer, Haighton, Home, Brugnoni, Cruikshank, Meckel, Blundell, and others—have seen corpora lutea upon the ovaries of those who had never been pregnant, and even in those of virgins and young girls. Such instances were always regarded as exceptions to the rule, as pathological, or as results of sexual excitement occurring at some former period without coitus, whilst they no doubt were produced by recent menstruation, or the opening of a follicle and escape of an ovum.

Lastly, it is a well-known fact, that women conceive the most readily immediately after menstruating, and even examples are not wanting where this took place only during menstruation.

It is likewise now a settled point that there is no more certain mode of reckoning the period of pregnancy, than that which dates from the last occurrence of menstruation. I have been informed by Professor Nägel that he had never once been deceived when reckoning nine months and eight days from the last menstrual period in regular instances. At the same time he told me, that he had frequently removed sterility by advising coitus immediately after, or even during menstruation.

Although at the present moment direct information as to the fate of the ovum during and after the menstrual period may be wanting (for supplying which I hope that an early opportunity, combined with the necessary dexterity and care, may be presented), yet no doubt can be entertained, that:

"In the human female, during the period in which she is capable of child-bearing, there occur every four weeks a maturation and extrusion of an ovum from the ovary, which process is accompanied by a simultaneous secretion of blood from the uterus."

I have no doubt that this law will not only stand the test of future experience, but will also serve to explain many phenomena hitherto unintelligible.* Experi-

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* Dr. Panck, of Dorpat, lately brought forward a case, in which he considered he had discovered a remarkable organic connection between the fallopian tube and ovary soon after conception, by means of which the passage of the ovum from the ovary into the tube is effected and secured. For my part I am convinced, and for the following reasons, that this was a case of commencing menstruation, but not one of conception; firstly, coitus was by no means proved to have taken place; secondly, Professor Bidder did not find any spermatozoa in the genital organs; and lastly, because, although the conjectural act of coition should have been effected five days previously, yet the

ence will teach us what are the limits of its application in man. It appears that the secretion of blood from the uterus commences whilst the ovum is still inclosed by its Graafian vesicle, and that the latter bursts and the ovum escapes towards the termination of that function. While in the tube, the ovum is probably for some days capable of fecundation on copulation being effected. What is the limit to this capacity? Direct observations alone can answer this question, and they are as yet altogether wanting. I believe, however, that I have a right to assume that fecundation must take place while the ovum is in the fallopian tube, since it is extremely probable that development first commences there. If, from all the information we at present possess, the conclusion may be permitted, that the ovum of the rabbit remains three days, that of the ruminant from four to five, and that of the dog from eight to ten days in the oviduct, we might then assume the ovum of the human female to be capable of fecundation during a period of from eight to twelve days after its extrusion from the ovary; thus probably, also, from eight to twelve days after the cessation of menstruation. Such a conclusion, however, being based upon analogy, is hazardous, for we know that very great varieties exist in different animals with respect to the time during which the ovum remains in the oviduct; for example, in the deer, according to my own observations and those of Dr. Zeigler, it most probably requires even months for its passage through the tube. All the attempts to define the period which have hitherto been promulgated,—where ova 12, 14, and 21 days old are reported to have been seen in the uterus, and in which even the embryo was already far advanced in its development,—are altogether unworthy of confidence, since they date from the act of coitus, which only specifies the limit of impregnation, but not the period at which the ova quit the ovary, nor do they admit of any conclusion as to the latter being drawn from them. The lengthened period during which the human ovum is capable of fecundation may possibly have been the cause why observation has as yet proved nothing precise upon this point. On the other hand, it does not appear that any ordinary circumstances, such as physical and moral excitement of the sexual impulse, and the like, could easily induce a change in the character of the maturation of ova, and thus also in the possibility of impregnation. The fact is contradicted by all our experience with regard to menstruation, which proves, indeed, that that function can be, and actually is, sometimes accelerated or retarded; but still only by the operation of causes which exert a far deeper influence than those alluded to. Of course, all that is known with respect to menstruation has its value in relation to this point, since it indicates the period of maturation of an ovum; but the collected evidence with regard to that function shows an alteration, such as that mentioned above, to be something uncommon; and all our latest information on the formation of corpora lutea proves only that the above-named influences can hardly possess such a power.

It is doubtless unnecessary to draw attention to the extraordinary importance attached to the discovery of a law which relates to one of the weightiest interests of mankind. Science and society in general are in the highest degree interested in it. On this account I most warmly desire that numerous further tests of its truth may not be wanting, and that it may not be opposed by antiquated deeply-rooted prejudices, which are sometimes regarded as experience. But whoever proceeds to the test should previously qualify himself for the task by much embryological research, for he has to do with things which are not easily ascertained. The errors of centuries, not indifferent about the question, prove this. I hope to be able to meet well-grounded doubts, and will at once proceed to remove one such, which has already been frequently opposed to me. I have often been asked, "If conception be dependent on menstruation, and this again on the maturation of an ovum, how does it occur that women have frequently conceived

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Graafian vesicle was still closed. I consider the connection between the ovary and fallopian tube, which was observed in this instance, as decidedly pathological. Delicate false membranes, of precisely the character described, are very common in connection with the female organs of generation.

who had never menstruated?" My reply is the simple statement, that although the secretion of blood be a normal, and the most striking phenomenon which accompanies the maturation of an ovum, yet it is by no means indissolubly connected with it. This is proved by the first glance at the animal kingdom, where this periodical maturation of the ova often occurs with, but more frequently without such a secretion. In the human female it is altogether a normal and important phenomenon, but by no means one which is essential,—it is only accidental. It may be absent, but mature ova may nevertheless be developed, and therefore also become impregnated. This will readily harmonize with what experience shows, that in general such women are also altogether free from any abnormal symptoms.

Again, many will no doubt question the law laid down, on the ground that it is scarcely conceivable that so important a circumstance should have escaped observation altogether, and especially that of anatomists and physicians, during their numerous disputes respecting the corpora lutea. To this I would reply, that it is quite true many striking points were long since known; as, for example, the dependence of fruitfulness in the female upon menstruation, the admission of the fact that conception takes place more readily immediately after menstruation, the reckoning of pregnancy according to the last appearance of that function, and the like. The reason why these observations did not lead to the full knowledge of the matter lies no doubt in the frequent recurrence of the menstrual period, or the maturation of an ovum, and possibility of a conception. If women menstruated only once or twice in a year, it would long since have been remarked that such was the only time when conception was possible; menstruation would long ago have been recognized as perfectly analogous to "the heat" in animals, even though the most essential element of it, namely, the maturation of ova, had not been discovered. The possibility of conception, however, is, on the one hand, so frequently repeated, in consequence of the menstrual period occurring every four weeks, that, in the absence of farther data, it was not easily possible to fix the point of time with which it was connected more accurately; and, on the other hand, menstruation passes over so frequently without its purpose, conception, being attained, that the attention must naturally have been directed more to that function than to the dependence of conception upon it. With regard to animals, it was the precisely opposite relation of circumstances which proved the impediment to the correct perception of the analogy between "the heat" and menstruation. In them the period of heat either occurs so seldom, once or twice a year, or, when repeated more frequently, as in the cow, the sheep, the pig, &c., it is so interfered with by ordinary circumstances, such as our economical arrangements and the like, that the animals are either immediately impregnated, or that the recurrence of the maturation of ova is obstructed and stopped by the secretion of milk. That an analogy, otherwise so striking, with one of our commonest domestic animals, the cow, should have remained for the most part unnoticed, is no doubt to be attributed to some of the above circumstances.

As regards the researches of anatomists and physiologists, we may remark, that they in the first place did actually make some correct observations; such, for instance, as those proving the formation of corpora lutea without coitus and conception. The fact that they did not interpret them correctly, nor develope them further, is an additional proof of the necessity for not only the corporeal eye and hand, but in the intellectual eye also for our observations, and shows how necessarily our researches must be accompanied by an idea, by reflection, if they are to apprehend correctly even simple relations of things. But these ideas were not mature, they could not be so; and the eyes of men, otherwise most distinguished, could not therefore be enlightened by them. Lastly, however, the rare opportunity for making observations on this subject must certainly be allowed great weight. Such opportunities occur but very seldom after the usual mode of death, the result of disease. Menstruation, the maturation and extrusion of ova, is too intimately connected with the functions of health, not to be interrupted by almost all modes of death, and therefore it is that, on examination afterwards, nothing is found. It is only in the bodies of perfectly healthy persons

who have met a violent death, that we can hope to obtain the required circumstances for observation. And how many of such as die suddenly will meet with their deaths exactly at the period of menstruation? and again, how many of those who do, will fall into the hands of such as are competent to so minute an investigation? The most favorable opportunities for the purpose would be afforded in the cases of executed criminals, where the requisite facts with regard to dates and so on may be precisely fixed.—*London Medical Gazette.*

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2. *Professor Berutti on the Spontaneous Generation and Nature of the Spermatic Animalcules.*—The reproduction of certain animal and vegetable species is effected, without the intervention of any ovum, after the manner of what is called gemmiparous and fissiparous generation. Now there is a great analogy between the development of *gemmæ* and that of *ova*. In the former, however, all the elements that are necessary to the production of a living being, are found contained; whereas, the latter have need of the new elements of the prolific fluid before they can become duly evolved.

Every particle of a living being—which, on being detached from its parent body, is capable of reproducing an independent living creature, does not materially differ from a bud, either in its mode of origin, or in its property of producing new individuals. Thus organic molecules, in certain circumstances, have the power of attracting to themselves new materials from surrounding bodies, which they then incorporate with themselves, and so elaborate as to form a new being. Spontaneous generation, in the opinion of Professor Berutti, consists in the exercise of this property, and differs from oviparous, gemmiparous, and fissiparous generation, in that it takes place among molecules, which, in consequence of the death of the parent, have ceased to constitute a part of a living individual.

Microscopic observations have clearly shown that the globules, resulting from the dissolution of organic matter, possess an inherent activity; sometimes they approach to and unite with each other, and at other times they seem to be mutually repellant. It is not at all inconsistent with rational belief to suppose that this is the cause of spontaneous generation—an act, it may be observed, to which the concurrence of the atmospheric air and of water is probably always necessary.

The reproduction of parts of an organic body that have been excised or destroyed is effected by means of globules floating in a fluid which subsequently evaporates, leaving the globules dry; hence the cellular production and origin of new tissues. The same process of assimilation is likewise that by means of which the fœtus is formed in the maternal ovum, as Wolf and Rolando have shown.

The necessary condition, therefore, of every sort of generation, reproduction, and even of the nutrition of organized parts is invariably the presence of certain organic globules endowed with a plastic activity, and floating in a fluid exposed to the contact of the atmospheric air—which, in place of furnishing carbonic acid as it does to plants, supplies ammonia for the spontaneous generation of animals. The fluid in its turn supplies hydrogen and oxygen.

The organic productions of spontaneous generation are the most simple of all, because they spring from organic globules that are not expressly prepared for this purpose.

Professor Berutti is of opinion that not only infusory, but also entozoary, animalcules are developed by spontaneous generation. He considers it too as highly probable that the *acarus scabiei* is the product, rather than the cause, of the itch. Lastly, he seeks to show that the Zoosperms are not genuine animalcules, but rather organic molecules formed in the minute extremities of the spermacetic tubes by the effect of an exuberant nutrition. The action of the Zoosperms seems to be very analogous to that of the Pollen in the fecundation of plants; and their movements may fairly be compared to those of this vegetable matter.—*Annali Univ. di Medicina, Inglio*, 1844, and *Revue Medicale, Nov.*, 1844.

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

3. *On the Contagious Effects of Puerperal Fever on the male subject; or on persons not Child-bearing. Read before the Sheffield Medical Society, March 5th,* 1845. By ROBERT STORRS, Esq., Doncaster.—As I have understood that the papers submitted to the consideration of this Society are expected to be rather the result of personal observation and experience, than compilations or extracts from authorities already before the medical public, I shall endeavor to abstain, as much as possible, from a reiteration of doctrines or opinions already settled in the minds of most of my hearers, and shall confine myself to circumstances which have been less frequently observed, or if they have been observed, have seldom been descanted on. As the subject involves the question of contagion and infection, before I proceed further, it may be desirable, perhaps, that I should state my views of it, especially as far as it relates to febrile, puerperal diseases.

There are three distinct classes of infectious diseases affecting the human subject, which differ in the degree and extent of their infectious power; and these are again capable of being subdivided into more minute species, some of which must necessarily run into each other, though the extremes of them are sufficiently distinct. These three classes embrace the most diffuse and incomprehensible poison of scarlatina, and the tangible permanent virus of inoculated diseases, and of those diseases capable of being produced by contact alone.

The first of these classes comprehends the exanthemata and plagues, and is purely epidemical; the second comprehends erysipelas, typhus, and other diseases of a more local character, being partly epidemical and partly endemical; and the third descends as low as diseases which are produced by inoculation or by actual contact only.

The first of these classes, epidemical diseases, has an extended signification; that is, it is generally prevalent amongst many at a time, and is also infectious in its nature. Most of the exanthemata are of this class, as small pox, scarlatina, measles, &c., which not only infect those who are in actual contact with their several poisons, but also infect the house or the neighborhood, and, in many instances, promulgate the disease, by the mere instrumentality of the atmosphere, to very considerable distances.

The infectious nature of these poisons, however, differs very considerably in degree; the poison of some of them being of a much more tangible and substantial kind than that of others, and capable of producing a disease of a similar nature in a sound subject, by the artificial introduction of its virus into the system; so far corresponding with diseases of a purely contagious nature. Epidemical diseases differ also in being either permanent poisons, to which human nature is, and perhaps, must be for ever, subject, pervading the whole world at the same time, being equally prevalent in warm and cold climates, in the eastern as in the western hemisphere, and may be looked upon as constant agents, by means of which the Almighty is pleased to keep in check the rapidly increasing tide of population; or they may be devastating and ravaging plagues sweeping the globe from east to west, or from country to country, until all those who are susceptible of their effects have been seized by them, or until their powers becoming weakened by diffusion, have gradually, perhaps rapidly, ceased. The causes of these plagues may be either terrestrial commotions or planetary influences. Hecker chiefly ascribes them to the former source, and relates many dreadful earthquakes, volcanic eruptions, inundations, vast destructions of animal, especially insect life, as preparations for the great plague which devastated Europe in the fourteenth century, and which for a time almost destroyed the bonds of social life.

In our own time we have had an instance of a plague of this description visiting us from the east, but happily the storm has passed over, and has left but few traces of its existence as a disease; and though the seed was sown in the western world it took no deep root, and after a rapid and too plentiful harvest, has again retired within its former, and it is to be hoped, more legitimate bounds.

I need not point out the remarkable difference between plagues of this description, in their rise, progress, and decline, and our own naturalized, and (in an extended sense) local fevers, as is seen in typhus, which in all its forms and varie-

ties more or less pervades certain localities, and prevails at certain seasons of the year from one generation to another, in almost all European countries; and that they differ, but perhaps less remarkably, from the pestilences which linger constantly about the shores of the Levant, and amongst many eastern countries.

The next class of infectious diseases, of which erysipelas and typhus are illustrations, has a less diffuse power than that which belongs to the exanthemata and to pestilential fevers; has sometimes a local origin, and is thence propagated by personal or by atmospheric means; or is produced in situations favorable to its propagation by some subject brought there who forms its nucleus.

Actual contact seems to be far less the means of producing this class of diseases than the atmosphere of a close room, or the breath, and the miasma from the foul discharge of the patient. Where, however, a depraved state of the blood, such as is often produced in aggravated cases of typhoid diseases, or a gangrenous sore is present, actual contact is, I believe, capable of transmitting a subtle poison, which will affect the susceptible by even intermediate contact, as is shown in those cases of puerperal fever related in the reports of the Dublin Lying-in Hospital, and in many other instances, both in public and private practice. With this class of diseases, the season of the year and atmospheric changes have much to do, and are seen to exercise a much more direct influence on their rise and progress than is the case in the former class of diseases arising from the more diffusible poisons.

The local origin of these diseases no one can, I think, doubt, who has had an opportunity of observing how frequently they will recur to one particular neighborhood again and again, and how entirely they are removed when a better system of drainage or ventilation has been instituted, or when a long standing nuisance has been removed. The Sanitary Report of the Poor-Law Commissioners has, I think, thrown considerable light on this subject, and will also tend materially to the abatement of the local causes which produce diseases of this class. Would it were possible it could remove the poverty, improvidence, and attendant miseries from which they too often arise.

The last class of genuine contagious diseases, such as require the actual and enduring application of their several poisons for their production, I shall not dwell upon, but come immediately to the subject of my paper, puerperal fever, and its consequences—a disease, which, though less infectious through an atmospheric medium, is much more transmissible by actual, or by intermediate contact, than ordinary typhoid diseases, and may, therefore, be considered as forming the connecting link between contagion and infection.

This definition of the procreative powers of puerperal fever I consider to be a very important one, because, unless it be known to the practitioner, he may direct all his attention to the prevention of the supposed diffuse power of the poison, when he ought to limit his view of it to its more direct and contagious one. For instance, he may use all the means in his power to prevent it from spreading from case to case, and may overlook its origin from some specific and perhaps permanent cause. This was indeed my own case. For some weeks during the prevalence of the disease in my practice, I supposed it to spread from case to case, and directed all my precautions to its prevention on this supposition, until it was fairly proved to arise from a gangrenous erysipelatous disease, from which alone the cases were all severally produced by my intervention. The case was exactly the same under Mr. Reedal, Dr. Paley, and many others.

The diseases which are capable of producing puerperal fever, by means of actual or immediate contact with the subjects of them (intermediate contact being almost the invariable means), I consider to be typhoid, and more especially gangrenous, erysipelas; the purulent matter of abscesses resulting from either of them, or even from typhoid scarlatina; the fomites of *post-mortem* cases of peritoneal inflammation, accompanied with depravity of the fluids; the gangrenous sore of typhus fever; the close approximation of malignant cases of typhus; in fact the actual, or intermediate application to the parturient female of any of those discharges which arise from a depraved and poisonous condition of the blood; and lastly, and but rarely, the disease arises from inward constitutional causes, of which a depraved state of the blood, and of the secretions of the patient, is one of the conditions.

True puerperal fever once set up by any of the means above stated, is again capable of imparting to any person not in the puerperal state, by actual contact or close approximation, the following diseases:—

1st. Inflammation of the peritoneum or other serous membranes, accompanied by low fever, both in the male and female subject.

2d. Erysipelas; local, as in the hand or arm, from *post-mortem* inspections; or general, as in the face or person.

3d. Typhus fever, with its various accompaniments, and in a variety of forms.

Having already, in another paper, endeavored to show what are the causes of puerperal fever, I shall now confine myself to an attempt to prove the three positions above stated, viz: the diseases to which it gives rise. In this endeavor, I shall take the liberty of reciting the following cases which have occurred in my own practice, and support them by quotations from cases which have occurred in the practice of others; and as the proof of the first of these positions is the subject to which I chiefly intend to direct the attention of my audience, I trust they will not think me tedious if I relate, somewhat in detail, certain cases where puerperal fever has produced similar symptoms to its own, in the person of the husband, and more frequently still in the persons of the relatives, of females who have died of it. The cases also go far to prove that the event of the approach of death adds virulence to the poison, as the cases recorded have all happened where the death has been the result.

Dr. S. next proceeds to prove each of the above propositions, by the citation of facts and cases, occurring within his own observation, but which we pass over, for want of space. The conclusions, however, appear to us legitimate and well sustained by the evidence. The writer concludes with the following remarks:

"Mr. Nunneley, of Leeds, I believe, considers the diseases of puerperal fever and erysipelas to be identical; and so far as they seem to arise from the same animal poison, I think a review of the cases above related will corroborate his opinion. But whether we can consider diseases so dissimilar as they appear to be, as differing from each other only from the texture of the body affected by them, I leave others to judge; for though the poison may be the same, the varieties of the disease produced by the condition of the party affected by it, by the constitution of the patient, by the strength and severity of the poison, and by many other circumstances, may be almost as great as in all those diseases, which arise from such a source as checked perspiration, derangement of the stomach, or from any other single cause, which may produce either cholera, inflammation, or diseases of a directly opposite nature, according to the predisposition of the party affected.

"The certain knowledge, however, of the capability of one or the other of these diseases affecting the persons of the nurses or attendants, may lead to many beneficial prophylactic means; for not only may puerperal fever be prevented, by a knowledge of its origin, from erysipelas, or from typhus, but typhus and erysipelas may also be in some measure prevented from arising in the persons of those who are in attendance on fatal puerperal cases, by the various precautions which a knowledge of the danger would inculcate."—*Provincial Medical and Surgical Journal, May 7th*, 1845.

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4. *On the treatment of Gout.*—In consequence of the abundance of *uric* (lithic) acid in the blood, Mr. Ure contends that *urate of soda* will necessarily be formed; which he has also established by various experiments. It is also a well known fact that there is in gout a torpid condition of the liver, on the removal of which the gouty symptoms are relieved. For this purpose Mr. Ure recommends the *sulphate of manganese*, in doses of one drachm, dissolved in half a pint of water, and swallowed before breakfast. In the course of an hour or two this is found to occasion copious liquid stools. With the view of testing whether bile is discharged to any amount by this medicine, Mr. Ure digested a portion of loose feculent matter with strong alcohol, in order to separate the mucus; this was thrown upon a filter, by which a limpid olive-colored solution was obtained, which after evaporation by a water-bath to the consistence of honey, yielded with the addition of boiling muriatic acid, a notable quantity of biliary resin, together with a little fatty matter; thus affording unequivocal proof of the excretion of bile; as a *cholagogue*, therefore, in gout, &c.,

this article is well worthy of trial; its action being prompt and soon over. It is also stated by Mr. Ure and others that it does not produce any of those distressing and lowering effects which are so apt to follow the exhibition of mercury and antimony in certain constitutions. (See "*Braithwaite's Retrospect*," Part x., p. 95.)

As a local application in chronic gout, for the purpose of abating the erethism of the vessels, promoting the absorption of effused fluids, and arresting the recurrence of attacks, which eventually lead to distortion and anchylosis, the topical employment of *acetic æther* and rectified *coal naptha* has recently proved highly successful. The former was first introduced to the notice of the profession by M. Sedillat, in the translation of the Medical Society of Paris (No. x., Mess. An. 5), but never seems to have attracted much attention in England or this country till lately. Mr. Ure states (*London Medical Gazette*, Nov. 8, 1844, p. 190) that *acetic æther* generally determines a speedy sedative agency in the more acute stage of gout when applied with gentle friction over the whole of the affected surface, to the amount of half an ounce every twelve hours, provided after each friction the patient is kept warm in bed. In the sub-acute form of the disease much benefit will be derived from simply pencilling over the part affected with a camel-hair brush dipped in naphtha. We have known the *tincture of arnica* applied with advantage in some cases, but in a patient now under treatment it produced an extensive vesicular eruption, attended with œdema of the whole limb. An ointment composed of ʒi. of *extract belladonna*, mixed with ℥i. of lard or simple cerate, will often afford relief in painful cases, applied to the part. Poultices are objectionable from their effects to relax the capillaries.—*Ed. N. Y. Jour.*

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

5. *Case of Obstruction of the Large Intestine, in which the ascending colon was opened with success, the patient dying three months afterwards of another disease.* By Samuel Evans, Esq., of Derby. [*Communicated by* William Bowman, F.R.S., Assistant-Surgeon to King's College Hospital].—Lewis Street, æt. 23, a farmer, has been liable for several years to attacks of diarrhœa. In September, 1843, he was seized with violent pains in the bowels, resembling colic, which lasted thirteen hours. About the third week in January the attack recurred, and became more severe on the 5th of February: the author saw him for the first time on the 7th. He was suffering from severe intermittent pains in the abdomen, which was distended, but free from tenderness. There was a distinct swelling in the right iliac region. His bowels had not been relieved since the 5th. Opiates, active aperients, and stimulating injections, were administered during five days without relieving the pain and sickness, or procuring evacuations. On the 12th and 13th, his sufferings were relieved by large doses of the Liquor Opii Sedativus. From this time to the beginning of April the size of the belly gradually increased; he also daily suffered many paroxysms of pain; at intervals large quantities of flatus, and small portions of clay-colored fæces, escaped from the bowels. The patient's health became much impaired, and vomiting recurred almost daily. On the 25th of March, Callisen's operation, as modified by Amussat, for the formation of an artificial anus in the loin, was proposed, but the patient yielded to the wishes of his friends in postponing it. His emaciation increased, and the abdomen became extended to the greatest possible degree; the evacuations entirely ceased, and the pulse became feeble and fluttering.

April 9th.—The operation was performed. A transverse incision, four inches long, was made in the right loin; the ascending colon was opened, and more than two gallons of semifluid clay-colored fœces were discharged. He recovered from the operation, and by May 9th had gained flesh; the wound in the intestine had healed, but the evacuations escaped entirely by the artificial anus, being restrained by a plug in the orifice, which is removed four or five times a day. At the end of June he commenced passing diabetic urine, and to suffer from thirst.

He rode a distance of six miles in an uneasy cart, and shortly afterwards symp-

toms of peritonitis supervened, and he died on the 5th. On examination of the body, the cause of obstruction was found to be a stricture in the colon, just beyond the angle formed by the junction of the ascending and transverse portions of the gut. The contracted part was almost as hard as cartilage, and would only just admit a crow-quill; its inner surface was ulcerated. The cæcum was enormously distended, and nearly as large as a stomach of ordinary size; the ascending colon was also much enlarged.

The author remarks that this is the eleventh case on record in which Callisen's operation, modified by Amussat, has been performed in the adult in consequence of obstruction in the intestinal canal. From the previous history of the case, it would appear that the disease had been of slow progress, and of considerable duration; but at the period to which the operation was delayed, owing to the interference of the patient's friends, he was in so alarming a condition that it is impossible to imagine a case more unfavorable for the operation. Two months afterwards he was so much recovered that there appeared to be every prospect of his restoration to health; but these hopes were disappointed by his imprudence in regard to diet and exercise; but as far as the operation is concerned, the case was successful.

Sir George Lefevre remarked on the indiscretion of the patient in going about so soon after the operation, and thought this should have been prevented by the medical attendant. Local and general treatment, together with the recumbent position, and strict attention to diet, were essential to the satisfactory conclusion of such a case. He briefly referred to two cases, of which he had drawn up a description and published. In one of these cases a lady of distinction in St. Petersburgh had had the colon punctured merely for the purpose of relieving the pain caused by distension. In this case the suffering was extreme; there was incessant vomiting and most urgent distension. A trochar was plunged into the colon, an escape of gas took place, and relief ensued. She died, however, in eighteen hours afterwards. In another case of internal obstruction the patient survived the operation twenty hours. Would an operation of this description be considered justifiable in this country, merely with a view of relieving symptoms, the termination of the case being certainly, either way, fatal?

Mr. Benjamin Phillips regarded the paper as a very important one. The operation had been performed many times, with various success, both for obstructed bowels and imperforate anus. As far as he knew it had been generally unsuccessful. The operation itself was by no means a difficult one, the real difficulty in these cases being to determine the circumstances which justify the proceeding. On what did the obstruction depend? Cases of obstruction presented themselves, dependent on the collection of hardened fæces, in which the patient became emaciated, and the symptoms presented all the appearances of internal strangulation, yet these cases were relieved without operation. If the obstruction were the result of disease in the rectum, as for instance carcinoma—of which disease Broussais was said to have died—there would be little difficulty in detecting its nature, and an operation like that under consideration might be performed with the chance of prolonging life, but even here we only substitute one infirmity for another, and it might be questionable which was the most difficult to be borne with. It was when the obstruction was situated higher up that it was difficult to decide on what it was dependent, and in what way we should proceed. The contraction, in fact, might exist at the very point at which the operation was usually performed. In Mr. Evans's case there was no indication presented to warrant us in drawing a conclusion as to the precise cause of the obstruction. Indeed, from the occasional passage of clay-colored fæces, it might have been diagnosticated as arising from fæcal accumulation, instead of being, as it was afterwards found, a stricture of the colon.

Dr. Powell remarked that it was surprising how long constipation might exist in hysterical patients. He related the case of a lady who was constipated for three weeks, and who was relieved by the use of opium and croton oil. On one occasion she had no evacuation for two months. Injections were of no avail, and she took as much as half a grain of morphia and two drops of croton oil night and morning. In this case he believed the obstruction to be dependent merely on hysteria.

Mr. Davis related the case of a man who had been invalided from the West Indies, and whose bowels were moved only once in three weeks. His health was good; but he was occasionally subject to spasmodic pain in the abdomen. Extract of colocynth with opium was given without effect, and he then took a gamboge pill three times a day, with small doses of Epsom salts. This usually succeeded in procuring an evacuation containing a great number of scybalæ every three weeks. The only unpleasant symptom under which he labored was occasional attacks of spasmodic colic. Under this treatment his appetite improved, though he would now and then reject his food. He detailed another case of constipation following parturition, in which an evacuation, when it was obtained, was found to contain a great number of scybalæ. He mentioned these cases as illustrative of the effects of proper treatment in prolonged constipation.

Mr. Solly agreed with Mr. Phillips as to the difficulty of determining the cause of obstruction in cases of prolonged constipation. Every surgeon in practice must have experienced this difficulty. He recollected a case which occurred some time since of a woman who was tapped for what was supposed to be ascites, but which was found after death to be simple distension of the colon with fæces, the result of scirrhus of the rectum. He particularly referred to those cases of internal obstruction which resulted from the passage of adhesive bands from one portion of intestine to another. Some years since he had seen a case of this description with Dr. Sutton of Greenwich. He (Mr. Solly) had been called on to pass a rectum bougie in a case of obstinate constipation. This was readily done, no impediment to its passage being encountered. The patient died four days afterwards. A band of adventitious membrane was found extending from the colon to the mesentery, completely binding down the former, and obstructing its canal.

Dr. James Johnson considered that in Mr. Evans's case there was little difficulty in deciding at what point the obstruction existed. The fact of the bougie having readily passed, combined with the ready injection of three pints of fluid, and the position of the distension, indicated that the obstruction was near the caput coli. The operation he considered to have been perfectly justifiable. It was astonishing how long fæcal accumulations might exist without seriously affecting the general health. He had a patient at present under his care who had not passed any fæces by the rectum for the last three months. He was suffering from a large inelastic tumor near the caput coli, and daily vomited up fæcal matter. His appetite was good, his general health unaffected, and there did not appear to be any signs of a fatal termination. It might be a question how far an operation in this case might be advisable.

Mr. Dunn related the case of a child who was born with imperforate bowel, the obstruction being situated so high up that a bougie could not reach it. No operation was performed, and after death the colon was found to be not larger than a crow-quill.

Mr. Blizard Curling observed, that it was by no means an easy matter to reach the colon by operation, particularly in infants, and when that canal was undistended. He related a case in which this was attempted; the surgeon, however, cut down upon the kidney. In a case of imperforate anus, in which attempts to reach the rectum were fruitless, he advised the operation of Amussat; but it was not acceded to. After death, however, he (Mr. Curling) performed the operation, and found it less easy than some gentlemen would appear to think it. By cutting a little too near the spine he came upon the kidney, an accident which he believed had occurred on more than one occasion when the operation had been performed on the living body. When the colon was distended, and the incision was made a little more externally, there would be no difficulty in reaching the intestine. He agreed with Dr. Johnson that in Mr. Evans's case the cause of the obstruction was sufficiently evident to justify the operation. This case, indeed, offered a sufficient encouragement to other surgeons to resort to this proceeding, particularly in those cases in which the obstruction was as evident as in this instance.

Dr. Taylor remarked, that as Mr. Evans was clear in his opinion as to the seat of the obstruction in this case, the operation was justifiable, and had undoubtedly prolonged the life of the patient. There was nothing in the paper to show the

nature of the obstruction—whether it was carcinomatous or otherwise. The microscope probably would be the only means of deciding this. It would appear, however, from the history of the case, that it had originated in simple inflammation. It appeared that the patient had for some years been subject to diarrhœa; this was probably the result of inflammation, which had afterwards proceeded to ulceration, cicatrization, and contraction. He had seen similar cases of contraction from ulceration the result of fever, though not always situated in the same spot. In most of these cases no operation had been contemplated, and the patients had died from chronic peritonitis before the obstruction had continued sufficiently long to warrant any operative procedure. He thought that one mode of distinguishing whether the obstruction depended simply on the accumulation of hardened fæces or on structural disease, would be to determine whether the patient had previously suffered from inflammation of the bowels. If so the obstruction was probably structural. He had seen these obstructions in the small intestines frequently follow fever. They were the result of ulceration, cicatrization, and subsequent contraction.

Mr. Hilton considered that in Mr. Evans's case the treatment with respect to the operation had been most judicious. The position of the obstruction was obvious, and the operation was therefore justifiable. He referred to cases of obstruction in the intestines resulting from a twisting of the colon upon itself, and of which he had lately seen an instance. The operation of Amussat was proposed, but not performed. After death a vertical incision was made in the line of the abdominal muscles from the false ribs to near the crista ilii: there was no difficulty in reaching the colon by this proceeding. The cases mentioned by Sir George Lefevre, in which the peritoneum was punctured, were very different from those under consideration, in which it was the object of the operator to avoid wounding that membrane.

Dr. Watson, from all he had seen or heard on the subject, had come to the conclusion that the question of the operation was to be decided by the special circumstances of each case. In a case like that of Mr. Evans the operation was justifiable, provided the patient had been acquainted with the nature and consequences of the proceeding previously. Other cases might occur, like that related by Dr. Johnson, in which, however inconvenient, it would be considered advisable to allow fæcal evacuations by the throat, rather than resort to the formation of an artificial anus. Other cases would occur in which it would not be possible *à priori* to decide whether an operation were advisable or not.—*Lon. Med. Gaz.*, Ap., 1845.

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6. *Surgical Society of Ireland. Observations on the Advantages Derivable from Dr. Warden's Prismatic Auriscope, and the Application of the Prism, in making Examinations of the Os Uteri and Bladder, &c.* By R. Tuthill Massy, M. D., &c. —Mr. President and Gentlemen,—Having always believed it pleasing to the members of this excellent Society to bring before their notice any improvements made in our profession, which may tend to facilitate the diagnosis of disease, and make the treatment more successful, I wish to call your attention to the advantages of a reflecting prism for sending a white light into the open cavities of the body. When last in Edinbugh, I called on Dr. Warden to see the new discovery which he made. During my visit, he examined a recruit, a lad about eighteen years of age, looking healthy. After he enlisted the surgeon would not pass him, as his hearing was very imperfect. The boy stated it arose from a cold which he got six months previous; he could not hear the tick of a watch in his left ear, but could in his right ear. Dr. Warden examined his ears with the prismatic auriscope, and considered the deafness incurable. On looking into the right ear, I saw the posterior half of the membrana tympani covered with a white substance, so hard that it could not be removed with a probe without giving pain; the other half of the membrane was gone. The left ear was filled with a fluid of the consistence and color of cream, which was easily removed with a camel's hair brush, leaving the membrane with an appearance of having been thickened by former inflammation. The second person I examined was a little boy, aged seven; he had been deaf two months. With the aid of this flint glass prism, I could see plainly the membrana tympani of each ear looking florid, as if from subacute inflammation.

The third case was a child two years old. The mother stated she noticed that the child's attention could not be aroused by bells ringing, nor by whistling, and the hearing was getting worse the last three weeks. The membrana tympani of both ears had a few small patches of vascularity. The other parts had a coating of a yellowish white fluid. Now, without this prism, the ears of those persons could not be so well examined, nor the true state of each case be so accurately known. Another great advantage it has is, that it hinders your going in your own light, which we are sometimes unavoidably obliged to do, when using the speculum without the prism. When making an examination with the new auriscope, you place a light at the side of the head, on a level with the external meatus and posterior to it, and a reflector behind the light. I use a lamp with a large convex glass in front of the light; the canula is introduced through the external meatus; one side of the prism is turned towards the light, then the light having been refracted, passes from the prism through the canula to the part to be observed. This prism can be used to illuminate the os uteri, and even a stone in the bladder may be viewed through a strait catheter, having a diameter of one-third of an inch. I have examined paintings through a stomach-tube twelve inches long; and if proper reflectors were placed at the curve of a stomach-tube, to receive the image of an ulcer or other disease in the stomach, a strong light could be sent through the flint glass prism on the mirror, from which it would be reflected into the stomach, and cause the desired image to appear in the glass. For further information on the use of this prism, I refer you to Dr. Warden's observations in the January number of the *London and Edinburgh Monthly Journal*. We may now have a cystoscope and gastroscope. I had the end of this canula cut off obliquely to allow an oval view of the membrana tympani, it being oval. If any gentleman will consent, I can exhibit his membrana tympani. [Here Dr. Power kindly offered himself for examination. Dr. Massy then introduced the speculum through the external meatus, and having placed the light and prism, as already mentioned, handed them to Dr. Houston, who, immediately addressing the chairman, said he saw clearly Dr. Power's membrana tympani.]

Dr. Power begged to ask Dr. Massy whether, in examining the membrana tympani, it had appeared to him to present a convex or concave surface towards the external meatus; in other words, what its conditions in this respect were in post-mortem examinations?

Dr. Massy replied, that he had always found it slightly concave.

Mr. Scallan remarked, that with respect to the convexity or concavity of the membrana tympani as to its external aspect, in repeated examinations with a tube, it had always appeared to him to be concave, that part only against which the malleus hitches having a slightly convex appearance.

Dr. Power.—In examining the membrana tympani with a small auriscope, the radius of the circle at the point of circumference will appear convex on account of the circle being concave in the centre.—*Dub. Med. Press, April*, 1845.

OBSTETRICS AND DISEASES OF FEMALES.

7. *Malapraxis in Midwifery.—Alleged Manslaughter.—Norwich Lent Assizes.*—Raymond Gaches, aged 48, was indicted for that he, being an apothecary and man-midwife, so negligently, carelessly, rashly, and feloniously conducted himself in his attendance on one Jane Mary Lovett, in her delivery, as to inflict divers mortal wounds on her body, whereof she died on the 19th of January last, at Costessy, in this county.

Mr. Evans and Mr. Palmer appeared for the prosecution; Mr. Prendergast and Mr. O'Malley defended the prisoner.

From the evidence of Honor Mortar and other witnesses, it appeared that Mrs. Lovett had had nine children before the occasion which terminated fatally, and that on former occasions a difficulty had presented itself in the removal of the placenta, the danger from which was well known by medical men to increase with each labor. On the 19th of January the poor woman was taken ill, and

the defendant called in to attend her at 11 o'clock. For some time the difficulty anticipated did not arise, but it did at length, and the nurses suggested further advice. The defendant, however, declined it, saying that "if there was a room full of doctors they could do no more than he was doing." After this he seemed to be using great exertions, with the view of relieving the patient of the placenta, and after a while a round substance came forth, such as had never been seen before by the nurses in their experience, and he was then seen to use his scissors under the clothes. At this instant the features of the sufferer underwent a sudden change and shock, on which the "doctor" observed "she was very sadly, and he would go and fetch some medicine." So saying, he placed the substance above mentioned, and some other thing which he had afterwards taken from the bed, in a vessel, which he took away with him. In the course of half an hour afterwards the patient died in great pain, and, being duly buried, nothing more would, perhaps, have been heard of the case, had not the defendant, when interrogated by the mother, stated, that the substance he had taken away was a tumor, weighing three ounces and a half, and that he had taken it to Mr. Crosse, the well-known surgeon in Norwich. This was for the time satisfactory to the inquirer, but afterwards a suspicion was excited that the defendant had not conducted himself properly towards the deceased; and her body being exhumed under the direction of the coroner, was submitted to examination by Mr. Crosse and Mr. Francis, who ascertained that the uterus and a considerable portion of the large intestines had been torn away. The evidence of these gentlemen was given to-day to the above effect, and they gave it as their opinion that great blame was attributable to the defendant if the removal of those parts was ignorantly effected by him, and still more so if it had been knowingly done; at the same time, they admitted that the case was not one of every-day occurrence, and that no stronger term than ignorance ought to be attached to his treatment of the patient; while the most skilful surgeons and operators were known to have "made mistakes."

Mr. Prendergast, on behalf of the prisoner, contended that the course pursued towards him was somewhat harsh, as it was unfair to expect from every man embarked in so critical a profession the consummate skill of an Astley Cooper or a Dr. Conquest, whose book on midwifery he largely quoted.

Mr. Justice Patteson, in summing up the case, thought that the question was not whether the defendant wilfully had removed the parts in question, for no man in his senses could do that; but it was for the jury to say whether, under all the circumstances, he had done more than fall into a mistake. *For a mere error of judgment he did not think that a medical man ought to be made criminally responsible, unless he had displayed gross professional ignorance or inattention to his patient.* The nurses all bore testimony to his kindness and attention, and it would therefore be for the jury to say whether they thought he had acted with such gross ignorance as was imputed to him by this charge.

The jury, without much hesitation, returned a verdict of *Not Guilty.*

From the verdict of the jury, given, as it is said, "without much hesitation," it would appear that Mr. Raymond Gaches in removing from a female during parturition the uterus and all the large intestines (see evidence below) did not display "gross professional ignorance or inattention to his patient," the test of criminal responsibility on such occasions, according to the learned judge. This is the third case of "disembowelling" which has occurred in midwifery practice (!) during the last year. Mr. Gaches is more fortunate than Garland and Gullimore, both of whom were committed and sentenced to imprisonment.

We are indebted to a friend for the subjoined evidence of the medical witnesses given at the inquest at Costessy. We shall return to the subject in a future number.

Post-mortem Examination of a female who died during labor.—William Bransby Francis, surgeon, of Norwich, says as follows:—I have examined the body shown to me as the body of J. M. L. On opening the cavity of the abdomen, I observed the stomach, small intestines, and bladder; and there was some blood effused into the parts about the pelvis. I took out the small intestines, which had no attachment below; the stomach was then removed, but the large intestines appeared to be absent. The bladder contained about three ounces of

urine; the small intestines were then measured, and found to be fifteen feet and eight inches in length. At the lower end the intestines had been torn off. The kidneys were healthy, as well as the liver. On removing the parts from the pelvis, I found thirteen inches of the large intestines in the vagina, which was lacerated, but there was no womb. In my opinion, death was caused by the injuries inflicted in removing so large a portion of the large intestines and the womb. In the most difficult case of child-birth there ought not to be any of those parts removed. I never met with a case in which they were removed. In removing these parts I consider there was a great want of skill and judgment. I should think no practitioner at all acquainted with midwifery would remove them; the removal of them would cause almost instant death. I see no reason why after the birth of the child, if proper skill had been used, the life of the deceased might not have been saved. The length of the intestines in any ordinary case is about twenty-seven feet, or about five or six times the length of the body.

John Greene Crosse, surgeon, of the city of Norwich, says as follows:—I have also examined the body shown to me as the body of J. M. L., in company with Mr. Francis. I have heard the whole of his evidence, and confirm all that has been stated in reference to the parts found in the abdomen. The parts entirely absent were the womb with all its appendages; all the great bowel except thirteen inches from the fundament upwards; a small portion also of the small intestines, had been removed with the large, so that altogether many feet of bowel had actually been removed by the vagina. There was every appearance of the removal having been made by laceration. The removal of the womb and such a quantity of the intestine must necessarily prove fatal. There are no circumstances that would admit of or require the removal of either one or the other. Such an injury could only have been inflicted in error; no circumstance could have required or justified such a practice. I have heard all the evidences, and find that I cannot see any reason why, after the birth of the child, if the deceased had been properly treated, her life might not have been spared.

Inquest held by Mr. Pilgrim, one of the County Coroners, February 28th, 1845. —*Med. Gazette*, April 18, 1845.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

8. *Case of Poisoning by Prussic Acid.*—On Friday, the 21st of March, Mr. Hicks, of High Street, Newington, was sent for in great haste to see a person who was stated to have been suddenly taken seriously ill. On his arrival, he found the patient to be a female about 22 years of age, and of small stature; she was lying on her back perfectly insensible, the teeth clenched, foaming at the mouth, and the face so greatly congested as to be almost purple; the breathing was slow, laborious, and at long intervals; the pulse gone, and the action of the heart but feebly to be felt; the eyelids were partly closed, and the eyes appeared as if pushed forward between them, while the pupils were dilated, and quite insensible to the stimulus of light; the whole body was under such strong spasmodic action, that the head seemed buried between the shoulders, and the arms nearly turned round by the action of the pronators. There was neither emprosthotonos nor opisthotonos.

Such were the symptoms as nearly as he can recollect; and from the bloated state of the countenance, together with the foaming state of the mouth, his first impression was that the girl was laboring under some form of epilepsy;* but upon finding the patient pulseless, and the heart scarcely to be felt, he naturally looked for some other cause; when he found, upon inquiry, that the symptoms had come on directly after taking a dose of medicine, which he ascertained by tasting and smelling to contain prussic acid. This led him to the conclusion that the symptoms were produced by an over-dose of that medicine; and in con-

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* No odor of prussic acid was perceived about the mouth, or in the room.

junction with Mr. Watson, a medical gentleman whom he found at the house upon his arrival, he resorted to the means recommended in such cases—such as cold affusion to the head, applying ammonia to the nostrils, and endeavoring to give brandy and ammonia internally. As, however, the muscles of deglutition were so fully under the influence of the poison, it is doubtful whether more than a small quantity passed into the stomach, notwithstanding every means was used, by irritating the fauces, to stimulate those muscles to action. Their efforts were, however, perfectly useless, as the breathing became gradually slower; and in less than ten minutes after their arrival the patient died,—death appearing to be caused by the perfect inability of the sufferer to inspire, from the muscles of the chest, as of every other part of the body, being under strong tetanic spasms; the natural consequences being extreme congestion of the brain and lungs.

On making inquiries of the father, who was present at the time the medicine was taken, it appears that no sooner was the liquid swallowed, than the girl, who had been previously sitting, started up, throwing her hands over her head, uttering at the same time a loud gasping sound, *but no scream or shriek*; she stood still for a second or two, then running forward about two yards, fell with her head first to the ground; after which she never moved, but continued to make a sort of moaning noise for five minutes. The respiration was accompanied by a sound very much resembling that observed in laryngismus stridulus. The ribs appeared to become fixed by a sudden tetanic spasm of the muscles. The time which elapsed between the taking of the liquid and death was *twenty minutes*. The deceased died ten minutes after the arrival of Mr. Hicks.

Post-mortem appearances.—At *ninety* hours after death (or nearly four days), the body was examined, when the following were the appearances presented. Externally there was great lividity, the teeth firmly clenched, and there was foam about the mouth.

Head.—The dura mater and sinuses were much congested, and the whole substance of the brain was dotted with blood, which was fluid, and exceedingly black. Ventricles empty; no odor of prussic acid in this cavity.

Thorax.—The lungs were much congested, otherwise healthy; heart small, and of feeble power; the right ventricle slightly dilated, but the valves healthy; the whole organ was filled with blood, which was perfectly fluid, and of a very dark color. The odor of prussic acid on opening this cavity was very evident, not so much from the smell as from the sense of constriction produced in the fauces.

Abdomen.—The stomach contained about two ounces of undigested food, smelling strongly of prussic acid, the organ itself appearing healthy, with the exception of a small patch near the cardiac orifice, which was red and vascular. This, Mr. Hicks, however, is inclined to think was not the effect of the poison, but that it had existed for some time, as it was for some form of dyspepsia that the patient was taking medicine.

The liver was healthy, as well as all the organs in the abdomen; there was no tinge of blue about the gall-bladder, or in its contents.

The contents of the stomach being taken to Dr. Letheby, of the London Hospital, were submitted to examination, in the first place, by putting them into a retort and distilling by means of a water-bath, by which process two drachms of fluid passed over, smelling of prussic acid, a portion of which being tested by the iron test gave evidence of the poison by the formation of Prussian blue, and afterwards, by testing with the nitrate of silver, a white precipitate was produced, insoluble in cold, but soluble in boiling nitric acid; and on heating the cyanide of silver in a small reduction-tube, cyanogen was evolved, which burnt with a purple flame; these tests satisfactorily proved the presence of prussic acid.

The next point to be considered was the determination of the quantity of prussic acid taken by the deceased. From information supplied by Mr. Hicks, it appears that one half of the mixture, which was intended for a lotion, yielded on distillation and the precipitation of the distilled liquid by nitrate of silver, nine grains of cyanide of silver. In the whole mixture, therefore, amounting to four

ounces, there would be a quantity of prussic acid equivalent to eighteen grains of the cyanide of silver. This would amount, according to the usual calculation, to three grains and six-tenths of anhydrous prussic acid. The deceased had swallowed by mistake one-fourth part of this lotion: she had, therefore, taken *nine-tenths of a grain* of anhydrous prussic acid. Taking Scheele's acid at five per cent., this would be equivalent to eighteen grains, or rather less than twenty drops of Scheele;* and, on comparing it with the Pharmacopœal acid, at two per cent. this quantity of anhydrous acid would be equivalent to forty-five grains, or forty-nine drops.

Remarks.—This is probably the most interesting case of poisoning by prussic acid which has been yet recorded. The history is in every respect complete: the poison was accidentally swallowed in the presence of a person, who was able to observe and give a good account of the symptoms to Mr. Hicks. This gentleman arrived ten minutes before the death of the deceased, and noticed for himself some of the most striking symptoms; a complete inspection of the body was made—the post-mortem appearances were accurately noted, and lastly, the exact quantity of poison swallowed by the deceased, was most satisfactorily determined by a chemical examination of the lotion.

In respect to the symptoms, it would appear from the father's statement that he first heard a gasping noise, but there was no shriek or scream. This case, then, appears to put an end to the theory that poisoning by prussic acid is always accompanied by a "*death scream*" or "shriek,"—a subject of discussion at the trials of Belany and Tawell.† There was the slow laborious breathing at long intervals, foaming at the mouth, protrusion of the eyes, dilated pupils, pulselessness, and insensibility. Mr. Hicks states that there was no stertor; that during the convulsive fits the head and neck seemed to be spasmodically drawn down into the chest. The convulsions do not appear to have been so great as to affect the trunk. Emprosthotonos and opisthotonos were absent: a fact which may account for the want of evidence of a distorted or convulsed state of the body, with disturbance of the clothes, in persons who have been found dead in bed, and who have taken prussic acid. The most remarkable part of the case is, that the girl obviously retained volition and the power of locomotion for a short time after swallowing the dose. She was able from a sitting posture to assume the erect attitude, throw her arms above her head, and then run a short distance before she fell. When seen by Mr. Hicks she was perfectly insensible, and unconscious of everything that was passing around her. She made the same moaning noise before death, that was observed in the case of Sarah Hart.

The most striking of the post-mortem appearances were,—the fluidity‡ and dark color of the blood. It does not appear that the blood had any odor of prussic acid, although this odor, or rather a *sensation* which some experience in smelling the acid, instead of odor, *i. e.*, "*constriction of the fauces*," was perceived by some of those present on opening the cavities of the thorax and abdomen. The contents of the stomach smelt strongly of prussic acid, *i. e.*, gave a constricting sensation in the fauces, and this was observed *ninety hours* after death. In a case examined by Mr. E. Crisp, of Walworth, where it is probable a considerably larger dose of the poison was swallowed, there was no odor of prussic acid in any part of the body, although the examination was made seventy hours after

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* Two drachms of what was said to be Scheele's acid were put into the bottle, but the analysis proved that the acid must have been under the strength of Scheele.

† Another case of Poisoning by prussic acid, without any "shriek, or scream," was reported in the Medical Gazette of last week. See page 859. Mr. Hicks took especial care to ask the father as to the kind of noise made by the patient on taking the poison, and from the description he gave, it does not warrant the assumption that any peculiar shriek is made in death from prussic acid. It was a mere gasping for breath. See also a third case, Edinburgh Medical and Surgical Journal, Vol. 48, p. 44.

‡ In Dr. Meyer's experiments on animals, the blood was found coagulated. Schmidt's Juhrbücher, 1844.

death.* Facts of this description show that the detection of an odor is a very uncertain attendant on poisoning by prussic acid. The term "*odor*" appears, indeed, to be improper, when applied to a sensation experienced in the throat; many can detect no odor at all in prussic acid, although they have an undefinable sensation of its presence. One point is quite certain, that those who look for an odor of bitter almonds in these cases will commonly be deceived, and pronounce the poison to be absent. It is very easy for a person who has tried some experiments on the subject to distinguish the smell of prussic acid from that of bitter almonds; but it is a question whether many do not actually seek for the smell of the latter, as evidence of the presence of the poison.

It is not a little singular that, in this case, the odor of prussic acid was more distinctly recognized in the thorax than in any other cavity! Some who were present perceived it more strongly in the chest than in the abdomen, even after the stomach itself had been laid open.

The only other appearances remarked, were congestion of the lungs and brain. The heart was filled with blood; the aorta empty. There was no blue tint in the contents of the gall bladder; the kidneys had a pinkish color, and were much congested.

The most important fact which this case discloses remains to be mentioned; it settles beyond all dispute that the *life of a healthy adult may be destroyed by a dose of anhydrous acid equal to nine-tenths of a grain.* Dr. Geoghegan† has described a case in which a gentleman narrowly escaped with his life after having swallowed a quantity of the acid equivalent to *thirty-six* drops of the London Pharmacopœial acid. In Mr. Hicks's case a quantity equivalent to *forty-nine* drops of the same acid was taken, and the person died in twenty minutes. In a case reported by Dr. Banks, a female recovered after taking thirty drops of an acid, the strength of which is not stated!‡ It is, however, quite possible that a person might die from a smaller dose than that taken by the deceased in this instance, because circumstances may cause the effects of the same dose to vary in its operation on different persons. Another point worthy of remark is, that the quantity which certainly killed this woman was actually less than that which was found to be present in the stomach of the woman Hart; and yet it was absurdly attempted, in the defence of Tawell, to show that there was not enough of the poison found to destroy life! We have, then, in the cases of Dr. Geoghegan, and Mr. Hicks, the clearest proof—1, that a person has recovered from a quantity equivalent to thirty-six drops of P. L. acid (fourteen of Scheele); and 2d, that a person has died from forty-nine drops of the P. L. acid (twenty drops of Scheele§). It appears to be impossible to have the fatal dose of a poison fixed with greater precision.—*London Medical Gazette*, April, 1845.

MISCELLANEA.

9. *Combination of Copaiba with Purgatives in Gonorrhœa.*—From an account given by M. Jacquetant of the Hospital practice of M. Diday, it would seem that the balsam of copaiba acts much more energetically in the removal of gonorrhœa if combined with purgatives. The formula which M. Diday found most successful, was three drachms of the balsam of copaiba, four drachms and a half of the powder of cubebs, and forty-five grains of the powder of jalap, made into an electuary, of which one half is taken in the morning and the remainder in the evening. The treatment rarely lasted more than five days, by which time a permanent cure was in general effected.—*Gazette Médicale de Paris* and *Edinburgh Medical and Surgical Journal.*

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* Lancet, Sept. 14, 1844.

† Dublin Medical Journal, vol. viii., p. 308.

‡ Edin. Med. and Surg. Journ. Vol. xlviii., p. 44.

§ It is here assumed that Scheele's acid contains 5 per cent. of anhydrous acid, but it is seldom found so strong as this.

10. *Acetate of Iron as a Remedy for Arsenical Preparations.*—The hydrated peroxide of iron is of admitted efficacy in cases of poisoning with uncombined arsenious or arsenic acid ; but according to the experiments of Duflos, it is quite ineffectual when these acids are combined with bases, as for example, Fowler's solution, or arsenite of potash, or arseniate of potash, which last is frequently employed in calico-printing, and is consequently easily procured.

In the uncertainty in which the practitioner may be placed as to whether the arsenical poison be free or combined, it is very important to administer the oxide of iron in such a form as to produce a favorable result: to this end it is convenient to employ the peracetate of iron.

This compound may be prepared by adding to the hydrated peroxide of iron obtained from the decomposition of four parts of liquid perchloride of iron, three parts of acetic acid, of density 1.06, and sufficient water to make up 16 parts.

This liquid which is a solution of peracetate of iron with excess of base, precipitates arsenious and arsenic acid from all their solutions, either free, or combined with any base ; 500 grains of it are sufficient to decompose 1880 grains of Fowler's solution.

This result demonstrates that liquid peracetate of iron merits preference in cases of poisoning by arsenical compounds. It should be remembered that its power is more rapid in proportion as it is more diluted with water ; besides which, large dilution prevents all irritating action of the acetic acid set free.—*Ibid., from Jour. de Ch. Méd.*, Novembre, 1844, as inserted in the *Philosophical Magazine.*

[The mode of preparing the above compound is not very clearly stated, for the strength of the liquid perchloride of iron is not given. It may be presumed that peracetate of iron mixed with peroxide is to be employed ; the degree of excess of the latter is of little consequence, and the strength of the peracetate is limited by the employment of four parts of acetic acid of 1.06 made up to 16 parts with water, and this, it appears, is to be largely diluted before exhibition.—Ed. *Phil. Mag.*]

As this is an important antidotal remedy, and as the term "liquid perchloride of iron" may tend to confuse many, perhaps it will be proper to state that the same preparation may be made by taking any quantity of hydrated sesquioxide of iron, prepared according to the U. S. Pharm., dividing it into two parts, then adding to one portion just as much acetic acid, of any strength, as will dissolve it, afterwards adding the other portion of hydrated oxide, and finally, as much water as will make it of the consistence of cream.—Ed. *Amer. Journ. Pharm.*

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11. *Valerianate of Quinine—its Therapeutic Employment—Mode of Preparation and Administration.* (Translated from the French—*L'Abeille Medicale.*)—Dr. Francis Devay, Physician to the Hôtel-Dieu de Lyon, through an essay published in the *Gazette Medicale*, directs the attention of practitioners to a new combination of valerianic acid with a vegetable alkali—quinine. We are induced to augur favorably of this union of the active principle of valerian to the medicinal agent of the most powerful of our exotic products. According to Mr. Devay, this provision is fully justified by clinical verification : valerianate of quinine in small doses is anti-periodic, very effectual, and superior to the sulphate by its nevro-sthenic properties.

Doubtless the gastro-intestinal accidents produced by this latter salt have been much exaggerated ; still, it is no less true that the sulphate is much more irritating than the bark in substance ; first, by reason of its greater solubility ; and again, because it has not the corrective properties possessed by the Peruvian bark, viz.—tannin.

It is not so with the valerianate. In this last product the quinine is modified by its intimate association with a vegetable acid, which, to a slightly perturbating action upon the nervous system, joins those eminently characteristic of Peruvian bark. There is, in this, a fact connected with therapeutic dynamics, concerning which we cannot too much engage physicians to consider attentively. Thus, as we said before, in our first memoir, valerianate of zinc is an antispasmodic raised to its highest power ; so valerianate of quinine is a medicine endowed with *anti-periodic* powers of the greatest energy. This is a fact we have acquired through

numerous cases zealously collected several months since. But it is due to us to say, that the administration of the valerianate will for a long time expose the practitioner to mistakes, until the apothecaries generally become experienced in its composition, and in all the minute and delicate preparations required by it. Mr. Devay remarks, that to judge of the therapeutic action of valerianate of quinine, it is necessary, first of all, to satisfy ourselves of the excellence of its composition. His experiments were made with valerianate of quinine, prepared under his supervision by Mr. Guillermond, a skilful pharmaceutist of Lyons.

Characters.—According to the analysis of the Prince of Canino, who was the first to prepare and describe valerianate of quinine, this salt is formed of one equivalent of valerianic acid, one of quinine, and two equivalents of water, of which one constitutes its water of crystallization. The crystalline form of this salt is very different; it is octœdrical or hexædral. We have ourselves obtained it in hexædrons, flattened on two faces, and forming rhomboidal tables perfectly characterized. It is often agglomerated in light, silky masses. Independent of this last fact, the crystals are hard and tolerably heavy.

Valerianate of quinine has a slight odor of valerianic acid, and a decided bitter taste, recalling that of cinchona. It dissolves with facility in water at a common temperature. Alcohol is a better solvent; and olive oil dissolves it equally well, assisted by a slight heat. The mineral acids, and most of the organic acids, decompose it. Submitted to a heat of about 90°, crystallized valerianate of quinine loses an equivalent of water, softens, and melts like a resinous substance. Deprived of water, it is rendered insoluble in this liquid, while, on the contrary, it is very soluble in alcohol. Exposed to a higher temperature, it cannot be made to part with its other equivalent of water, but is decomposed, and mono-hydrated valerianic acid vapors are seen to escape from the resinous mass. The aqueous solutions of this salt, exposed to the heat of boiling water, also decompose, and oily drops are seen to float upon the surface of the liquid, which cannot be made to redissolve in the water, except by means of spirit of wine, and is nothing more than mono-hydrated valerianate.

Preparation.—To a concentrated alcoholic solution of quinine add valerianic acid in slight excess. Dilute the alcoholic solution with twice its volume of distilled water; mix intimately, and evaporate in a stove at a heat not surpassing 122° Fahr. After the evaporation of the alcohol, the valerianate is exhibited in the form of handsome crystals, here and there grouped or isolated, which increase from day to day.

The valerianate of quinine may likewise be prepared by double decomposition, in mixing sulphate of quinine with valerianate of lime or baryta, both being dissolved in weak alcohol. We have ourselves obtained this salt in mixing an alcoholic solution of the neutral sulphate of quinine with an alcoholic solution of valerianate of potash.

The process succeeds, after several successive trials, to insure the perfect decomposition of the two salts. These methods are only good in saving time; it is far better to act in a direct manner, so as to have finer and purer products.

Whatever mode of preparation be adopted, it should always be borne in mind that the solution must be evaporated slowly, with a gentle heat, and the crystals not be separated from the mother waters except to dry them in the open air.

Valerianate of quinine may be distinguished as follows:—

1st. A concentrated alcoholic solution of valerianate of quinine precipitates the concentrated neutral aqueous solution of nitrate of silver: this precipitate is redissolved in a large quantity of water.

2d. An aqueous solution of valerianate of quinine does not precipitate one of chloride of barium.

3d. This aqueous solution, submitted to ebullition, allows some oleaginous drops of melted hydrated valerianate to separate.

4th. If this solution be treated with acids, valerianic acid is disengaged, which may easily be recognized by its odor; and if this decomposition be effected with crystallized valerianate of quinine and a concentrated liquid acid, valerianic acid will be obtained in an oleaginous form.

Mode of Administration.—Like the valerianate of zinc, this of quinine being very delicate, or more correctly speaking, easily decomposed, it is best to administer it in the most simple form: in this belongs a necessary condition to its successful use.

We mostly give it in a gummous solution. Five decigrammes of the salt, (8 grs.) according to our experiments with Mr. Guillermond, dissolve easily in 100 grammes of gummous vehicle. One of the great advantages of valerianate of quinine is to be able to dissolve it easily in oil, and use it in this manner for frictions and embrocations upon the region of the spleen. With this object we have made use of the following liniment:

℞ Olive oil . . . . . 60 grammes.
Valerianate of quinine, . 1 gramme.

For neuralgia we use commonly pills containing 6 centigrammes each, prescribed in the simplest manner.

To appreciate the therapeutic value of valerianate of quinine, Mr. Devay reports, out of many cases under his observation, 14, for the most part severe and complicated intermittent fevers, which were cured by the administration of valerianate of quinine, when the sulphate even proved abortive. Each dose from 10 to 40 centigrammes (1 1-2 to 6 grs.) a day, according to circumstances. The author cites no instances of failure, and mentions no inconvenience resulting from the employment of this new therapeutic agent.

He concludes thus:

1st. Valerianate of quinine is a superior antiperiodic to the sulphate by its nevro-sthenic properties, and because it acts in smaller doses.

2d. Its pure and simple administration is of equal value with that of cinchona and the *névritiques* combined.

3d. In fevers of the worst character (ataxiques-malignes) it is thought to render the most eminent services by its specific properties.—*Amer. Jour. Pharm.*

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12. *Conversion of Benzoic into Hippuric Acid.*—Dr. James E. Booth and M. H. Boyè of Philadelphia, have published in the "Transactions of the American Philosophical Society," a valuable paper *on the Conversion of Benzoic into Hippuric Acid*, accompanied with numerous experiments, embodying the following results:

1. The formation of uric acid in healthy urine is not affected, either in regard to its quantity nor to its external properties in general, by the introduction and transformation of benzoic acid into hippuric acid in the system.

2. The time required for the benzoic acid to pass through the system, and reappear as hippuric in the urine, is from twenty to forty minutes after its introduction with food into the stomach. Its occurrence continues for four or eight hours, but then ceases.

3. The quantity of hippuric acid obtained from the urine is greater than that of the benzoic acid taken. In round numbers it may be stated to be one-third more.

4. Urea is not in combination with the hippuric acid in the urine.

5. The base with which the hippuric acid is combined, and which keeps it in solution, is ammonia.

2.

American Medical Intelligence.

New Works.—Professor Gross is now in Philadelphia, superintending the publication of a new edition of his Elements of Pathological Anatomy, which will be issued in a single volume during the summer. The new edition will embrace whatever has been furnished to the author by his reading or observation in the last five years, not contained in the present edition, and will make an addition to the work of nearly three hundred pages. Many portions have been re-written, a number of new chapters have been introduced, and the illustrations by woodcuts multiplied to an extent which must very materially enhance the value of the treatise to students of medicine.

Professor Gross has also been engaged upon a new edition of Liston's Elements of Surgery, which will be ready for press early in the autumn.—*Western Journal.*

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Accident to Professor Paine.—We are happy to learn that Professor Paine, who recently received a severe injury by the upsetting of a stage, near the village of Ballston Spa, is rapidly recovering, and will soon be able to resume his usual avocations. As many erroneous statements have been published in relation to the manner in which the accident occurred, as well as the nature of the injury received, the following particulars derived from Dr. P. himself, will not be uninteresting: The stage, at the time of the accident, was laden with thirteen passengers, and was drawn by high-mettled and unmanageable horses. Dr. Paine perceiving the danger, repeatedly requested the driver to stop on arriving at the top of a high hill, at the bottom of which was a bridge at an elevation of some fifteen feet above the rocky bed of a small stream below. At the moment of passing the bridge, the outside rein of the off horse gave way, which, by the efforts of the driver to hold the horses, brought the leaders suddenly round, and the carriage was precipitated into the mud and water below. Dr. Paine was taken out almost immediately, in a state of insensibility, from which he soon recovered. On examination, it was found that his collar bone and two or three ribs of the left side were fractured; these, together with some bruises, and a severe concussion of the vital organs, rendered his situation very precarious for a day or two; but, from letters just received, we are glad to learn that he is rapidly convalescing. We trust that medical science may enjoy the benefit of his talents, learning, and research, for many years to come.

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American Medical Journals.—If we are to judge of the progress of Medical science in this country by the rate at which Medical Journals are multiplying, we must certainly arrive at the conclusion that it is advancing with a most gigantic stride. We will enumerate them:

1. First, in priority of date, if not of merit, stands "*The Boston Medical and Surgical Journal,*" a periodical of established repu-

tation, both at home and abroad. The Editor, Dr. J. V. C. Smith, with whom our acquaintance dates anterior to the issuing of his first number, in February, 1828, and who, from that day to this, has constantly grown in our esteem, is admirably calculated to conduct a work of this kind. To a correct knowledge of every branch of his profession, he unites an acquaintance with the whole circle of the natural and physical sciences; a peculiar tact; great industry and perseverance; a kind and amiable disposition, which seems to shield everything but downright quackery; in short, he possesses all the qualifications necessary to give interest and value to such a publication.

His Journal, which, fortunately for its readers, is a *weekly*, reflects the character of its conductor, and enjoys a wide circulation in every part of the country. We wish it a long and an honorable career; and if we judge of the degree of vital force, from its manifestations, there is none that promises greater longevity than the "Boston Medical Journal." Two or three other Journals have been established in Boston since the publication of this, but none of them reached beyond a few numbers. *Esto perpetua.*

2. The "*American Journal of the Medical Sciences*," established in the fall of 1828, under the editorial management of Dr. Isaac Hays, is perhaps too well known to our readers to need any particular remark. It succeeded in the place of the "Philadelphia Journal of the Medical and Physical Sciences," conducted by Professor Chapman, and has always enjoyed a high reputation. The publishers, by their ample means, have been able to obtain the co-operation of the most distinguished medical men throughout the Union, as will appear from an examination of their list of contributors. The Journal has done much to advance the interests and character of the profession, and is recognized as high authority in medical matters, both in this country and in Europe. The Editor has been charged, whether justly or not we do not pretend to say, with manifesting somewhat of partiality towards Philadelphia authors and Philadelphia publishers, and of overlooking those of New York especially. But those who bring such an accusation, forget, perhaps, the Scripture precept, that "charity begins at home;" and the Editor may think that New York is big enough to take care of herself. One thing is acknowledged, that some of the ablest papers that have ever appeared in the Journal, have been written by New York Physicians, and without their co-operation the work would have lacked much of its interest and value. It continues to be well sustained, and must be a source of profit to both Editor and Publishers.

3. The "*Western Journal of Medicine and Surgery*," edited by Drs. Drake, Yandell and Colescott, and published at Louisville, Ky. This is a monthly journal, which has now reached its 66th number, and is conducted with much talent. Its original communications are generally of a high order of merit, and its reviews are judicious, discriminating and candid. It is doing much for medical science in the West, and we hope has a long and prosperous career before it.

4. The "*Western Lancet, devoted to Medical and Surgical Science*," is published monthly at Lexington, Ky., and under the editorial charge of L. W. Lawson, M.D., Professor of General and Pathological Anatomy and Physiology, in Transylvania University. The Editor is now on a trip to Europe for a few months, and, in the meantime, the "Lancet" is to be conducted by his colleagues, Drs. Mitchell and Peter. The

same remarks will apply to this, as to the "Western Journal," though its circulation, we are told, is somewhat more limited.

5. "*The Southern Medical and Surgical Journal*," published monthly, at Augusta, Ga., is edited by Paul F. Eve, M.D., and J. P. Garvin, M.D. This is the official organ of the Medical College of Georgia, and is very ably conducted. Its original communications are interesting and important, and its reviews and selections judicious.

6. "*The New Orleans Medical Journal, devoted to the cultivation of Medicine and the Associate Sciences*," is a bi-monthly, and has just reached its 6th number. The Editors are E. D. Fender, and A. Hester, M.D. This Journal has already taken its rank as one of the ablest and best conducted in the country. It certainly is indispensable to those who wish to become thoroughly acquainted with southern diseases, their causes, pathology and treatment.

7. "*The Bulletin of Medical Science*," edited by John Bell, M.D., Philadelphia (monthly), is, doubtless, well known to all our readers. Its veteran Editor has identified his name with so many important works, that it has become as familiar as a household word. It is difficult to say in which character he is best known, whether as a Lecturer, Editor, Author, or Practitioner; in all, Dr. B. has acquired a reputation of no ordinary kind; and we hope may long live to enjoy the well earned trophies of an honest and an honorable fame.

8. "*The Medical Examiner and Record of Medical Science*," edited by R. M. Huston, M.D. This Journal, which also hails from Philadelphia, has been lately much enlarged and improved, and is a highly useful periodical. Although its original communications are not very numerous, they are always interesting; and its Reports of Clinical Lectures constitute one of its most important features. We know not how it is, that three Medical Periodicals can not only be supported, but actually thrive in our sister city, while one is thought to be adequate to the wants of New York. A Journal, however, that is conducted as well as the "Examiner" is at present, may be expected to flouirsh in any place where medical men abound.

9. "*The Missouri Medical and Surgical Journal*," edited by H. F. Stevens, hails from the city of St. Louis, and is the organ of the Medical Faculty of Kemper College. This is a monthly, of 24 pages, the first number of which has just appeared.

10. "*The St. Louis Medical and Surgical Journal*," edited by M. L. Linton, M.D., is the organ of the Medical Department of the St. Louis University (monthly). This has reached the 14th number, and, like the last, is very well got up.

11. "*The Illinois Medical and Surgical Journal*," edited by J. V. Z. Blaney (monthly, 16 pages). The organ of the Medical College of Illinois, at Chicago.

12. "*The Buffalo Medical Journal*," under the editorial charge of Prof. Austin Flint, M.D. This is a new candidate for Professional favor; and from the high reputation of the Editor, who is known as one of our most accomplished physicians and talented writers, we augur no common success to the undertaking.

13. "*The American Journal of Insanity*," edited by the Officers of the New York State Lunatic Asylum, at Utica, completes the list of Medical Periodicals, so far as we are informed, that are at present published within the United States, with the exception of the

14. "*American Journal of Pharmacy.*" These works are both of them too well known, to require any praise or comment at our hands.

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The Annual Report of the New York City Inspector.—Our notice of this Report has been crowded out of our present number, but will appear in our next. The whole number of deaths reported for the year 1844, is 8955; being 262 more than those of the preceding year, and 221 less than in the year 1842. Of these, there were white males, 4534; white females, 3903; colored males, 219; colored females, 219; premature and still births amounted to 828. Total deaths, exclusive of still born, 8127. The number of white males exceeded that of the females more than 16 per cent., a fraction above that of 1843; and this excess, for some reason, is constantly on the increase. The number of deaths of colored persons is the same. The relative number of still and premature births appears to be increasing, being 1 in 1081; whereas, in 1836, they were only as 1 to 1780. Is this disparity owing to the operations of Madam Restell, Costello, and their collaborators? The deaths by small pox, measles, and cholera infantum, are 213 less than in 1843; while scarlatina, hooping cough, croup, remittent and typhus fever, show an increase of 250. The deaths from nervous diseases appear to be on the increase, and hydrocephalus has become the most formidable disease to which infants are exposed.

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Dr. McClelland.—We regretted that unavoidable engagements, deprived us of the pleasure of being present on the occasion alluded to in the following notice, which we copy from one of our daily papers. We can bear testimony to the urbanity as well as faithfulness of Dr. McClelland, and to the talent and energy which he displayed in the discharge of his important duties while in charge of the Hospital at Bellevue.

"*Presentation of Plate.*—Amidst the general selfishness and bitterness of feeling that is displayed by office-holders, more particularly when the guillotine has been applied, it is refreshing to find one instance of liberal ideas and spirit manifested. The occasion to which we allude, is the presentation of a handsome silver pitcher to Dr. John McClelland, who has, for the last year, filled the place of Resident Physician to the Alms House, by the various medical assistants who have been attached to that institution during his *régime*. The affair came off at the Carlton House, and the pitcher, which bore the following inscription,

PRESENTED TO

JOHN McCLELLAND, M. D.,

By his Medical Assistants in the Alms House establishment of the city of New York, as a testimonial of regard for his professional attainments and social virtues, May 12, 1845,

was presented to the worthy Doctor by Dr. Tilden Brown, in a most appropriate speech, which was replied to in a feeling manner by Dr. McClelland. This part of the business being concluded, the company, which included some of the most eminent medical and surgical talent in the city, adjourned to the dining room, and partook of an elegant supper with the greatest zest. The cloth being removed, some most excellent remarks were made by Dr. Wood, complimentary to Dr. McClelland, in

reference to the activity with which he had performed his duties not only to the patients of the Institution, but in his endeavors, by means of the great medical s chool which he had control of, to advance clinical instruction, which is of so much importance to the student. He stated that the Doctor had always been most anxious to throw open all the resources of the establishment to those seeking to advance themselves in their profession, and he regretted more had not availed themselves of the opportunity. He was followed by Dr. McClelland, and Dr. Hasbrouck, the present incumbent of the office. Dr. FRANCIS made an excellent speech, in the course of which he adverted, in the most impressive terms, to the great attention that should be paid to clinical instruction, and concluded by proposing as a toast—'A generous intercourse among the members of the Medical profession.' He called on Dr. PARKER, who called on the profession to endeavor by the cultivation of good feeling, one with another, to do away with all that might lead to the common complaint of the jealousy that was said so frequently to be found among its members. It was by the means of such social meetings as the present that much was done to do away with such ideas. He was glad to hear that diplomas for services were bestowed on the assistants of the medical department of the Alms House by the Board of Commissioners ; such testimonies of approbation proved a stimulus to the young men, and were of much service to them. A spirit of emulation was to the last degree important in medical education, and he was glad that the establishment of a new medical school in this city added to that feeling. He concluded by proposing the memory of Dr. Wm. Pitt Canning, a young surgeon of much promise, who had served a term at Bellevue, but on being transferred to the naval service had unfortunately fallen a victim to the yellow fever on board the Vandalia in her late cruise. We were, at this stage of the proceedings, obliged to leave, much to our regret, as the commencement of the evening promised to ripen into one of delightful and dignified enjoyment."

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Spring Course of Lectures at the New York Hospital.—According to previous notice, a meeting of the Medical Class attending the practice and Spring Course of Lectures of the New York City Hospital, was held in the Lecture Room of said Institute on Saturday, May 10th, 1845. The meeting having been called to order by Dr. S. S. Satchwell, on his motion, Dr. P. A. Aylett, of Alabama, was called to the Chair, and Dr. William B. Squires, of New York, appointed Secretary. The Chairman having explained the objects of the meeting, on motion, a committee of five were appointed to present resolutions expressive of the views of the meeting. The committee, consisting of Drs. Satchwell, Stevenson, Moffatt, Grattan and Power, after due deliberation, reported the following resolutions, which were unanimously adopted :

1. *Resolved*, That we hereby tender our thanks to Drs. Post, Griscom, Buck, Reid, Watson and Swett, for the very valuable and instructive course of Lectures which they have delivered at this Hospital during the present spring, and we also tender to those gentlemen our grateful acknowledgments for the kindness and zeal which they have manifested for our professional improvement.

2. *Resolved*, That inasmuch as Dr. Swett, whom we regard as second to no pathologist in this country, has not yet completed his course on Diseases of the Chest, he be, and is hereby, requested to continue his Lectures, if consistent with his convenience.

3. *Resolved*, That the proceedings of this meeting be signed by the Chairman and Secretary, and published in the next number of the New York Journal of Medicine. P. A. AYLETT, *Chairman.*

WM. B. SQUIRES, *Secretary.*

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Dr. Samuel L. Metcalf.—After a residence of ten years in Europe (chiefly in London), where he has acquired a distinguished reputation as a medical writer and philosopher, this gentleman has recently arrived in our city, which he purposes to make his future residence. Dr. Metcalf is well known to many of our readers as the author of an ingenious work on "Terrestrial Magnetism." Since his residence abroad, he has published a large work in two volumes, 8vo., of 1100 pages, entitled "Caloric, its mechanical, chemical, and vital agencies in the phenomena of Nature"—which has been most favorably noticed in many of the leading reviews and journals. We are happy to learn that the talented author is about to republish the work in this city—a work which we do not hesitate to pronounce one of the ablest and most interesting that has ever appeared from the American press. The author writes with great clearness and force, and his views on different questions in physiology are not only distinguished for uncommon originality, but are defended with an array of facts and reasonings, which cannot fail of carrying the reader along with him. We congratulate the profession in this city, on the acquisition of so valuable a member.

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Progress of Hydropathy.—Since the issuing of our last number, we have noticed in the newspapers, that the *shower-bath* has been introduced into several of our State Prisons and Penitentiaries, in the place of whipping and other modes of corporeal punishment.

This speaks well for *hydropathy*, and will doubtless tend to make the practice fashionable among the "upper ten thousand," who are in the habit of being influenced by such high examples. As Captain Claridge tells us as the result of his own observations (*on Hydropathy*, p. 122), that the hydropathic treatment produces a "vitiated condition of the blood, dryness and roughness of the skin, pimples, boils, ulcers, abscesses, violent headaches, dizziness, tremor of the limbs, nausea, vomiting, diarrhœa, and fever"—all of which are regarded as salutary efforts of nature to expel morbid matter from the blood—who can tell but that the same despumatory process may also expel some of the bad humors from the mind, and thus powerfully tend to the reformation of convicts?

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Health of the City.—The health of the city was never better, at the same period of the year, than it is at the present moment. Every physician who has been resident in this city for the last fifteen or twenty years, cannot but be struck with the vast disproportion in the amount of disease, at the present time, compared with what it was but a few years ago. This is attributable to a variety of causes; temperance,—the improved habits of the people with respect to foods and drinks; a more general acquaintance with the structure and functions of the animal economy—improvements in the ventilation of public and private dwellings—and especially in the introduction of the Croton water. We wish it were in our power to add, greater cleanliness of our streets, and the more general habits of bathing—but these are at present to be regarded in a prospective point of view,—as things to be hoped for and prayed for, but not as positive realities.

Much excitement has been got up in relation to the small pox, and as always happens in such cases, exaggerated reports have been spread throughout the country, which have prevented many persons coming to the city. There has been no just cause of alarm at any time ; it may, however, serve the useful purpose of calling public attention to the importance of vaccination ; and if, in consequence, a general re-vaccination takes place, the public will be greatly benefited, to say nothing of the profession, and there will be no cause to regret the occurrence of the panic.

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The Annual Spring Course of Lectures at the College of Physicians and Surgeons, and the New York Hospital.—The Courses of Lectures, annually delivered in the spring at these Institutions, have just been brought to a close. The classes in attendance, we believe, were quite numerous, and entirely satisfied with the courses of instruction. The advantages of New York for clinical instruction are now so well understood, that we need but allude to the subject at this time. These advantages, we are happy to know, are becoming better appreciated every year; and the time, we believe, is not remote, when New York will stand as pre-eminent for medical instruction, and the cultivation of medical science, as it now does for wealth, population and commercial enterprise.

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Dr. Williams' Medical Biography.—A few copies of this excellent work still remain on sale at Messrs. Langley's book-store, 8 Astor House. We are surprised to find that the first edition has not been completely exhausted long since ; it can only be accounted for from the fact that an uncommonly large edition was struck off. We sincerely trust that the able author, who has prepared the book, to perpetuate the memory of distinguished members of the profession, now deceased, may not only have the satisfaction of contemplating a noble deed, nobly performed, but of realizing something from the publication, that he may be able in some degree to abridge the labors of an arduous practice, and find time for the preparation of another volume, which is necessary to complete the work.

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ART. XXV.—A Valedictory Address, delivered by G. S. BEDFORD, A.M., M.D., Professor of Midwifery and the Diseases of Women and Children, in the New York University; on the evening of Feb. 28, 1845. Printed for the Class. 1845, ... 240

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TO READERS AND CORRESPONDENTS.

☞ Our next Number will contain a letter from Professor Mott to Mr. Liston of London, on operations on the Jaw; Recent proceedings of the "New York Medical and Surgical Society;" communications from John Watson, Alfred C. Post, T. A. Tellkampf, S. L. Metcalfe, and Dr. N. Shearman, &c., of this city; Drs. S. W. Williams, of Deerfield, Mass., and B. Dowler, of New Orleans; Professor Caldwell, of Kentucky; Professor Shipman, of Cortlandville; and Dr. Gardner, of Newburgh. Also, one or more Reports from the Surgeon General's office, U. S. A.

The reader will perceive that the Original Department of our Journal continues to be ably supported. We are glad to announce, that we have proffers of assistance from many parts of the United States, and the increase of our circulation is more than commensurate with our highest expectations. We trust our friends and the profession generally, will not relax in their efforts, but continue to make our Journal the medium of their communications.

We are happy to announce to the subscribers of the "New York Journal of Medicine," that a copy of "*Ranking's Half Yearly Abstract of the Medical Sciences*" will be sent to all who pay in advance, forming two volumes of nearly 400 pages each, annually. The first vol. of the English edition just issued for the half year ending, June, 1845, forms an octavo of 391 pages, the annual subscription price being 13*s.* sterling. We are informed by the Editor that every periodical work of note published in Great Britain, America, France and Germany, is subscribed for and consulted; and that "every new and standard publication and monograph which can be obtained is analyzed as it may come to hand." The work will embrace every department of Medical Science, and "each department is entrusted to men who have distinguished themselves in that branch of their profession."

By this arrangement we shall be able to present to our readers, a very large amount of valuable medical intelligence (making over 1650 large octavo pages annually), arranged and digested in a most useful and systematic manner. This will leave us at liberty to devote our pages chiefly to original communications, bibliographical notices, and American intelligence. The subscription of the Journal will remain the same, $3 00 (including Ranking), always payable in advance. The first No. of Ranking will be sent with the present No. to all who have paid their subscription for the present year; it will also be punctually forwarded to all who send on the amount of arrearages and to all new subscribers.

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The Dispensatory of the United States of America. By GEORGE B. WOOD, M.D., Prof., &c., and FRANKLIN BACHE, M.D. Sixth Edition, carefully Revised. Philad., 1845.

A Treatise on the Diseases of the Sexual Organs, adapted to Popular and Professional Reading, and the Exposition of Quackery, Professional and otherwise. By EDWARD H. DIXON, M.D. New York: Burgess, Stringer & Co. 1845. 12mo. Pp. 260.

Elements of Materia Medica and Therapeutics. By JOHN B. HARRISON, M.D., Professor of Materia Medica and Therapeutics, in the Medical College of Ohio. Vol. I. 8vo. Pp. 405. Philad., 1845.

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2. Report of the Joint Select Committee to whom was referred that part of the Governor's Message which relates to the Insane Poor. Mass. Session, 1845. Document No. 11, 1845. Pp. 14.

Dissertation on the Progress of Ethical Philosophy, chiefly during the 17th and 18th Centuries. By the Right Hon. Sir JAMES MACKINTOSH, LL.D., with a Preface by the Rev. Wm. Whewell, A.M., Fellow of Trinity College, Cambridge. Philadelphia: 1845.

The Field and the Work of the Medical Profession. An address delivered before the Associated Alumni of Castleton Medical College, at their annual meeting, June 18, 1845. By HORACE EATON, M.D., of Enosburgh, Vermont. Published by request. Albany, 1845.

Essays on Pathology and Therapeutics, being the substance of the Course of Lectures, delivered by SAMUEL HENRY DICKSON, M.D., Professor of the Institutes and Practice of Medicine, in the Medical College of the State of South Carolina. 2 vols., 8vo. Charleston, 1845.

An Elementary Treatise on Midwifery; or, Principles of Tokology and Embryology. Alfred A. M. VELPEAU, M.D., &c. Translated from the French, by Charles D. Meigs, Professor of Midwifery, in the Jefferson Medical College. Third American Edition, with notes by Wm. Harris, M.D., Lecturer on Midwifery and the Diseases of Women and Children. Philadelphia, 1845.

The Medical Remembrancer, or Book of Emergencies, &c. By EDWARD B. L. SHAW, M.R.C.S. and L.A.S., &c. Revised and Improved by an American Physician, New York: S. S. & W. Wood, 1845.

The American Quarterly Journal of Agriculture and Science. Conducted by Dr. E. EMMONS and A. J. PRIME. Vol. ii. Nos. July, August, September. Albany. (The only number received.)

Lectures on the Theory and Practice of Surgery. By the late ABRAHAM COLLES, M.D., for thirty-four years Professor of Surgery in the Royal College of Surgeons, in Ireland. Edited by Simon M'Coy, Esq., F.R.C.S.J. 8vo. Philadelphia, 1826.

Kosmos. A survey of the General Physical History of the Universe By ALEXANDER VON HUMBOLDT. New York: Harper & Brothers. Part 1.

The Fruits and Fruit Trees of America, or the Culture, Propagation, and Management, in the Garden and Orchard, of Fruit Trees generally; with descriptions of all the finest varieties of Fruit, Native and Foreign, cultivated in this country. By A. DOWNING. New York, 1845.

Catalogues and Circulars from the Medical Department of the City of New York; The College of Physicians and Surgeons of the City of New York; Massachusetts Medical College; the Baltimore College; the Willoughby Medical College; Bowdoin College; the Berkshire Medical Institution; the La Porte University; Rush Medical College at Chicago; Hampden Sidney College.

The remainder in our next.

☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the Publishers, J. & H.G. Langley; but books for Review, and Communications designed for publication, should be directed, *free of expense*, to the Editor of the New York Journal of Medicine, care of J. & H. G. Langley, New York. Persons at a distance, may direct parcels paid as above, under care of Harrington and Haswell, Philadelphia, W. D. Ticknor and Co., Boston, and Wiley and Putnam, London.